

UNITED STATES COAST GUARD
OCEANOGRAPHIC
REPORT No. 30

CG 373-30

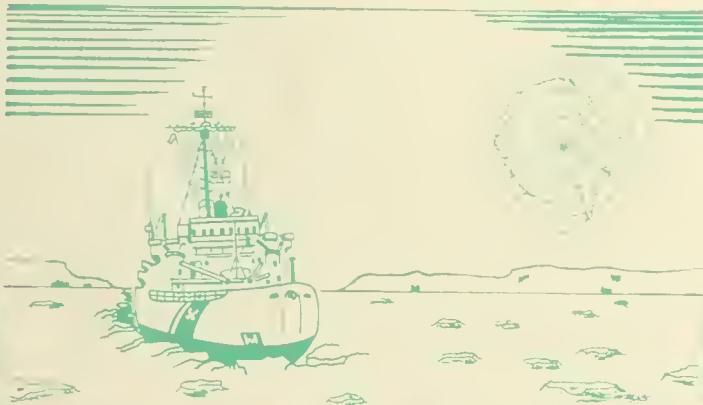
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OCEANOGRAPHY OF THE WEDDELL SEA

January-March 1968

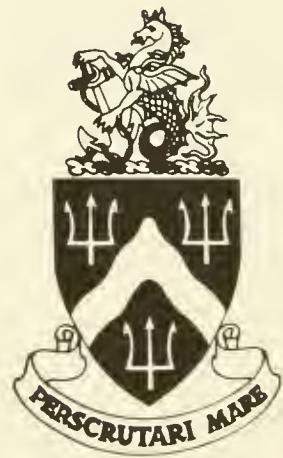


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UNITED STATES COAST GUARD

OCEANOGRAPHIC



UNITED STATES COAST GUARD OCEANOGRAPHIC UNIT

REPORT No. 30 CG 373-30



OCEANOGRAPHY OF THE WEDDELL SEA

January–March 1968

Robert B. Elder

James M. Seabrooke

WASHINGTON, D.C. ♀ April 1970



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USCGC GLACIER (WAGB-4)



Abstract

During January–March 1968, the USCGC GLACIER (WAGB 4) penetrated the pack ice of the Weddell Sea to over 75° S. latitude in support of the first phase of the International Weddell Sea Oceanographic Expedition (IWSOE). Fifty-eight oceanographic stations were occupied in the southwestern and western Weddell Sea, most of which were in areas never before surveyed. The U.S. Coast Guard Oceanographic Unit performed analyses of temperature, salinity, oxygen and dissolved nutrients. These data are presented, accompanied by a preliminary interpretation of the oceanography of the Weddell Sea. The water masses and processes involved in the formation of Antarctic Bottom Water are discussed.

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OCEANOGRAPHY OF THE WEDDELL SEA

January - March 1968

Introduction

The importance of the oceanographic processes of the Weddell Sea and the need for their study has long been recognized. This area is generally believed to be the source of most of the Antarctic Bottom Water that flows northward into the ocean basins. There are varying opinions on the northward extent of Antarctic Bottom Water. Defant (1961) indicated that it can be traced to 25°N. in the Pacific and 8° N. in the Atlantic while Dietrich (1965) traced it to as far north as 50° N. latitude in the Pacific and 45° N. latitude in the Atlantic.

Just as the importance of the oceanographic processes of the Weddell Sea has long been recognized, the difficulty of such a study has also been apparent. Prior to the International Geophysical Year (IGY) the Weddell Sea was only crossed five times; by James Weddell in 1823, by Sir James Clark Ross in 1843, by W. S. Bruce in 1904, by Wilhelm Filchner in 1911, and by Ernest Shackleton in 1915. (Klepikov 1968). The latter two accounts especially indicate the treachery of the Weddell Sea since both ships became ice-bound for prolonged periods of time and, in the case of Shackleton's voyage, resulted in the complete destruction of ENDURANCE. The sheer heroism of the account of the survival of Shackleton and his crew is unequalled outside of fiction.

Even with modern icebreakers, an extensive area in the Western Weddell Sea remained unstudied. In the early 1960's several methods of observation were considered. One idea was to initiate a program similar to the Arctic's Operation Ski Jump. Upon further investigation, this proved to be impractical owing to the remote location of the Weddell Sea. The flight time from an existing air support site or the practical problems in setting up a temporary site were formidable. More important, ice conditions in the Weddell Sea are not suit-

able for even the most daring aviator to attempt landing; hence plans for an aircraft supported oceanographic program were abandoned.

Despite obvious difficulties, the National Science Foundation included the study of the oceanography of the Weddell Sea in its long range plans. The need for such a program was also evident to the U.S. Coast Guard and fit into its expanded oceanographic mission. Consequently, owing to the combined needs of the National Science Foundation and the U.S. Coast Guard, it was decided to modify USCGC GLACIER (WAGB 4), the largest of the nation's icebreakers, to make it capable of carrying out an extensive oceanographic program. Modifications made prior to IWSOE '68 for Antarctic oceanographic operations included addition of five oceanographic laboratories, two oceanographic winches, a level luffing crane for over-the-side work, a salinity-temperature-depth recording system, an 8K memory computer, and standard oceanographic laboratory equipment. Prior to IWSOE '69 an additional winch and luffing crane were installed to give USCGC GLACIER piston coring and heavier dredging capacity. These modifications made meaningful, well-rounded oceanographic programs possible. Figure 1 shows the alterations accomplished on USCGC GLACIER.

Two items which contributed greatly to the success of IWSOE '68 were satellite photo information and satellite navigational equipment. Navigation in the Weddell Sea is extremely difficult and inaccurate. No navigational aids are available and celestial navigation is hampered by skies that are generally overcast, coupled with an indistinct horizon due to the presence of ice. These conditions make the calculations of even the best of navigators subject to considerable uncertainty.

The accuracy of satellite navigation was not affected by either clouds or indistinct horizon, hence, the quality of the navigation during the expedition was quite high. Use of satellite photos to determine areas of light ice and to

aid in prediction of ice conditions in particular areas also contributed towards more effective operation and lessened the chance of unintentionally wintering over.

IWSOE '68 Programs

A number of institutions took part in the expedition. A brief description of each of their programs is given below.

University of Bergen

A program to investigate currents related to the formation of Antarctic Bottom Water was directed by Dr. Thor Kvinge of the University of Bergen. One of the theories of formation of bottom water calls for a "release" of bottom water on the shelf periodically during the austral winter. To evaluate this theory, Dr. Kvinge installed four buoy systems on the shelf to measure currents and temperature throughout the winter. A schematic of this buoy system is presented in a report by Kvinge (1968) and is reproduced as Figure 2.

University of Connecticut

The zonation of the benthic organisms in the Weddell Sea was studied by Dr. John S. Rankin of the University of Connecticut. Dr. Rankin used epibenthic sleds, anchor dredges, Blake trawls and Van Veen grab samplers. Upon collection, all sediment samples were washed through seives and the macroscopic organisms were classified and preserved. Preliminary analysis showed two zones: a shallow zone (depths up to 1000 meters) that was characterized by a great number and variety of relatively large animals and a deeper zone that was characterized by few numbers and kinds of relatively small animals. The size of some of the foraminifera was noteworthy, some of them being as large as $\frac{3}{4}$ inch long.

Texas A&M University

Primary productivity was studied in a program under the direction of Dr. Sayed Z. El Sayed of Texas A&M University. This program consisted of the study of:

- a. Light penetration.
- b. Chlorophyll and phasophytin concentration.
- c. Photosynthesis (C^{14} uptake method).
- d. Phytoplankton and zooplankton (collected with vertical tows).
- e. Quantitative phytoplankton studies by filtering large water samples.

Dr. El Sayed's data indicated conspicuous variations in the productivity of the areas visited. The southwest and western regions of the Weddell Sea were found to be more productive than the central and southern regions.

University of Minnesota

A program to study the population dynamics of Antarctic seals (and penguins) was conducted by Dr. Donald B. Sinniff of the University of Minnesota, Museum of Natural History. Census-taking was achieved by counting the number of seals within $\frac{1}{4}$ mile of the ship for a two hour period at selected times throughout the day. Blood samples were also collected from representative animals and processed for later study. Analysis of the samples by electrophoresis will show if racial differences exist among the wide-spread seal population of the Weddell Sea. Helicopters were used to land on ice floes inhabited by seals; the seals were anesthetized using a dart gun and the blood samples were then drawn.

University of Miami

A program to investigate the microalgae and protozoa of Antarctic pack ice was conducted by Dr. Chum Chi Lee of the University of Miami. Observations and samples were obtained within and under the pack ice by divers and correlated with observations obtained by other investigators.

U.S. Coast Guard Oceanographic Unit

The program conducted by the U.S. Coast Guard Oceanographic Unit included physical oceanographic measurements, nutrient and pH determinations, bottom photography and gravity coring. This program will be discussed in detail later in the paper. Personnel making up the U.S. Coast Guard Oceanographic Unit field party included:

Robert B. Elder, *Oceanographer*.

LT. James M. SEABROOKE, USCG, *Oceanographer*.

SOI-SI James A. WADE, USCG, *Oceanographic Technician*.

SOI-SI John M. MURPHY, USCG, *Oceanographic Technician*.

AGI Peter R. SAN JULE, USCG, *Oceanographic Technician*.

SO2-SI Robert C. MURRELL, USCG, *Oceanographic Technician*.

YN2 Dwight E. OLSON, USCG, *Oceanographic Technician*.

SN Scott B. ROBERTSON, USCG, *Oceanographic Technician*.

IWSOE '68 Cruise Procedure

The International Weddell Sea Oceanographic Expedition, 1968, was scheduled to begin upon termination of USCGC GLACIER's support work at McMurdo Station. The scientific party met CGC GLACIER in Punta Arenas, Chile on 20 January 1968. Departure was delayed until 26 January owing to late arrival of last-minute shipments. While in the Drake Passage, contact with the Argentine Icebreaker GEN. SAN MARTIN was made and it was determined that a rendezvous at Hope Bay would be possible by diverting slightly. Rendezvous was made and various facets of the expedition were discussed. CGC GLACIER departed Hope Bay on 31 January 1968 enroute to 74° S., 40° W., the desired site of the current meter—water sampler buoy installation. It was decided to steam directly to the buoy site without delay to increase the chances that the SRN-9 Satellite Navigation system would be operative and because ice reconnaissance photos indicated that the desired area was free of ice. The time was also used for

the various investigators to set up their equipment. An initial bathymetric survey of the buoy site was conducted to determine the general bottom characteristics and to make sure that the buoys would not be set in a depression. Upon completion of the bottom survey four buoys were set. Details of the buoy installation procedure are given by Kvinge (1968).

Upon completion of the buoy installation, occupation of oceanographic stations was begun to obtain data in the areas of the Weddell Sea ordinarily inaccessible. It was believed that ice conditions during the austral summer of 1967–1968 were lighter than usual. Therefore, areas which would be impenetrable or very difficult to penetrate under normal ice conditions were given the highest priority of study. When the ice became so heavy that the ship's progress was slowed greatly (to about 3 knots), lighter ice was sought. With the exception of a run to Halley Bay because of a medical emergency, this procedure was carried out throughout the cruise.

Station Procedure

The initial procedure followed by the ship upon arriving on station depended largely on ice conditions. The difficulty in setting the ship properly for station was generally inversely proportional to the ice concentration. In heavy concentrated ice it was usually possible to ease into an opening in the ice and allow the wind to hold the ship against the downwind side.

Most of the time, there would not be enough ice dislodged to cause any problems after the first few minutes. In less concentrated ice the same procedures were attempted, but difficulties arose when the ice was not firm enough to keep the ship from drifting through the ice. Frequently under these circumstances, blocks of dislodged ice converged in the wake

or windward side of the ship and caused problems with any gear over the side. Possibly the ice conditions which were most hazardous to oceanographic equipment were in open pack ice where the ice and the ship were free to drift independently. Under these conditions it was impossible to predict when floes would drift in and tangle or break the oceanographic cable. The best solution was to try to find open areas where the ship could drift free of ice long enough to complete a cast, then reposition the ship before starting another cast. Late in the survey, a 10' by 10' coffer dam was built of ten inch square timbers. It was floated underneath the platform and the casts were lowered through it. It was initially designed to keep brash ice (up to the size that might trip a Nansen bottle) away from the cable. On occasion, however, it kept out rather large floes under considerable pressure.

In the cases where the ship's movement into an area might have disturbed the surface water measurements, observations of other than surface phenomena were made first so

that surface conditions could return to more nearly normal before measurement.

Although station plans were constantly changing owing to a number of circumstances, there were generally two station types: a somewhat abbreviated station taken near local apparent noon, and a more complete or major station taken at night. The local apparent noon station usually consisted of a secchi disc observation, submarine photometer observations, a combined vertical zoo-phytoplankton tow, water sampling from six levels (using "Van Dorn" sampling bottles), and a Nansen bottle cast to 1000 meters. The major station, occupied at night to make optimum use of the dark hours when the ship's progress would be slowed or stopped, usually consisted of two overlapping Nansen cast (one from surface to about 1000 meters, and the other from about 1000 meters to the bottom), a cast to obtain samples for chlorophyll analysis, a vertical plankton tow, an STD cast, and either bottom cores or photography. In addition to the two main types of stations, a trawl or dredge station was occupied when ice conditions allowed.

Data Acquisition And Initial Analysis Methods

Nansen Casts

Teflon-lined Nansen bottles were used throughout the cruise. All bottles were equipped with two protected reversing thermometers and at approximately alternate depths below 200 meters with unprotected thermometers. Nominal sampling depths were 0, 10, 25, 50, 75, 100, 150, 200, 300, 400, 500, 600, 700, 800, 1000, 1250 and 1500 meters and at 300 meter intervals below that. Several bottles were placed at 25 meter intervals near the bottom to determine whether any changes in the water structure might occur at that level. These depths were frequently modified to provide more optimum sampling. Two overlapping Nansen casts were generally required to obtain samples from the surface to the bottom. The shallower cast was generally from 0 to 1000 meters and the deeper cast from 1000 meters to the bottom. A pinger was used to aid in sampling near the bottom. In the cases where the ship was firmly held by the ice, a zero

wire angle was generally obtained which made it possible to obtain samples within a few meters of the bottom.

Temperature Data

Standard analysis procedures for correcting thermometers and determining thermometric and accepted depths were used. Use of the shipboard computer made quick, accurate data analysis possible and thus allowed prompt response to any conditions that might indicate that a change in sampling procedure was desirable.

Salinity Determination

Salinity was determined using an inductive type salinometer. Final calculations of salinity were made by computer. Shipboard quality control of salinity and temperature data included examination of T-S plots for distribution of stability and agreement with historical norms.

Nutrient Analysis

At the beginning of the cruise, phosphates, nitrates, and silicates were determined aboard ship using the methods described by Strickland and Parsons (1965). Unfortunately, the spectrophotometer purchased for the ship became inoperative. The spare instrument from the U.S. Coast Guard Oceanographic Unit was also inoperative owing to damage in shipment. Consequently, the samples were frozen for the remainder of the cruise. Frozen samples were returned to the U.S. Coast Guard Oceanographic Unit to determine nitrates, nitrites, silicates, phosphates and ammonia. Some of these samples were ruined by freezer malfunction. Consequently, nitrite determinations from stations 030 to 060 and all nutrient data from stations 043 to 060 were invalid.

Oxygen

The amount of dissolved oxygen was determined on all samples using a modified (Strickland and Parsons, 1965) Winkler method.

Salinity-Temperature-Depth System (STD)

The STD was used at the major stations to obtain a continuous profile of temperature and salinity with depth. When deep STD and Nansen casts were taken at the same station, the STD cast was usually terminated at about 2000 meters depth. This saved time, yet allowed all the important inflection points (except any that occurred very near the bottom) to be observed. A single Nansen bottle was attached to the STD cable just above the underwater unit so that quality control and calibration of the STD data could be accomplished.

Bottom Cores

Bottom cores were obtained by using two gravity corers attached to a bridle to permit simultaneous lowering. The arrangement worked quite well. Core lengths averaged about three feet. The cores were retained in the plastic core liners and were then coated with wax and stored upright in cold storage.

Results of Analysis

Sixty-one oceanographic stations were taken by USCGC GLACIER during IWSOE '68. Four sections through these stations were selected for analysis (fig. 3). Vertical distribution of

Bottom Photography

A Thorndike (1959) type bottom contact camera was used for bottom photographs. Both Plus-X black and white film and high speed color film were used. The camera system was set so that a photograph was taken with the camera lens about three feet above the bottom and at an angle of approximately sixty degrees from the vertical. The strobe light was attached beneath the camera and oriented at about the same angle as the camera. This resulted in a close-up of the bottom at an oblique angle which gave somewhat of a three-dimensional effect because of shadows. The ship's photographer was able to develop both types of film. The results of the bottom photography are presented in a paper by Hollister and Elder (1969).

Vertical Plankton Tow

Two $\frac{1}{4}$ meter nets were used simultaneously to obtain plankton samples. One of the nets had a mesh size suitable for zooplankton and the other a mesh size suitable for phytoplankton. These were lowered to 200 meters. Lowering and retrieving rates were approximately 20 meters per minute.

Productivity and Chlorophyll

Although chlorophyll content was not measured continuously, as was originally planned, it was measured frequently by obtaining samples with a bucket. Samples at depths governed by various levels of incident radiation were obtained using Van Dorn bottles. Because of loss of bottles through damage, two casts were required to obtain six near-surface samples. These were obtained at local apparent noon at depths of 100, 60, 23, 11 and 2 percent of incident light penetration plus two other depths selected for other reasons. A secchi disc was used to determine light extinction. A submarine photometer was also used from time to time as a further measurement of light penetration.

sigma-t, temperature, salinity and oxygen content were determined for these sections and are reproduced in Figures 4-19.

Analysis of the data indicate that two main

water masses mixed to form Antarctic Bottom Water. These were the cold ($<-1.9^{\circ}\text{ C.}$) saline ($>34.60\text{‰}$) water which was found on the continental shelf below about 200 meters and the Warm Deep Layer ($>0.2^{\circ}\text{ C.}$ and $>34.67\text{‰}$, based on IWSOE data) which was found from about 500 to 1000 meters depth off the shelf (Sections B and C). These two water masses met at the upper part of the continental slope.

Seaward of the continental shelf, mixing and sinking of dense shelf water and Warm Deep Layer water are clearly indicated. Sections A, B and C (fig. 4-15) show this, particularly in the vicinity of stations 18 and 25. Further mixing at depth is also made apparent by the sigma-t distributions. The 27.85 and 27.86 isopycnals plotted on the temperature cross sections illustrate this (figs. 4, 8, 12 and 16) as do the isentropic analyses of the temperature distribution on the 27.85 and 27.86 sigma-t surfaces.

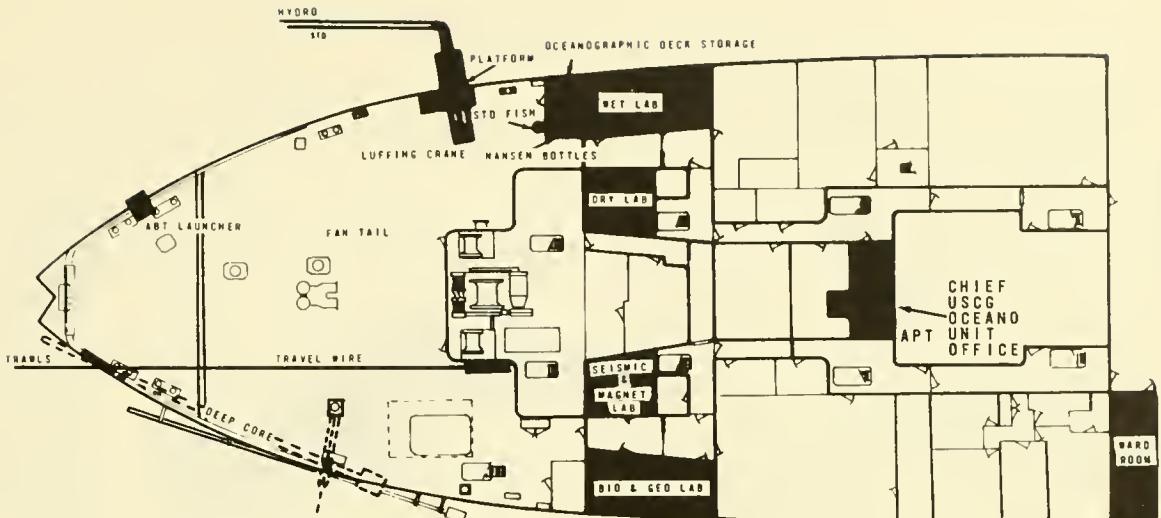
The primary conclusion reached as a result of the data analyses is that water of sufficient density to mix with the Warm Deep Layer and form Antarctic Bottom Water was being formed during the austral summer in the

Southwestern Weddell Sea. The data indicate that this dense shelf water was not formed at the air-sea interface nor was it formed elsewhere and transported into the Southwestern Weddell Sea area. Its presence during the summer can not be explained as winter-formed water entrapped by bottom topography since the area is quite flat and can not prevent water from flowing off the shelf (fig. 24). Consequently, it is concluded that the most logical method of formation is the mechanism described by Lusquinos (1963). This method of formation requires that the dense shelf water attain its temperature-salinity characteristics by interaction with the extensive ice shelf in the Southwestern Weddell Sea. The temperature of the water is reduced, the salinity is increased due to freezing and the density of the water is therefore increased. Thus the cold dense shelf water is formed on a continuous basis and subsequently mixes with warm deep water to form Antarctic Bottom Water.

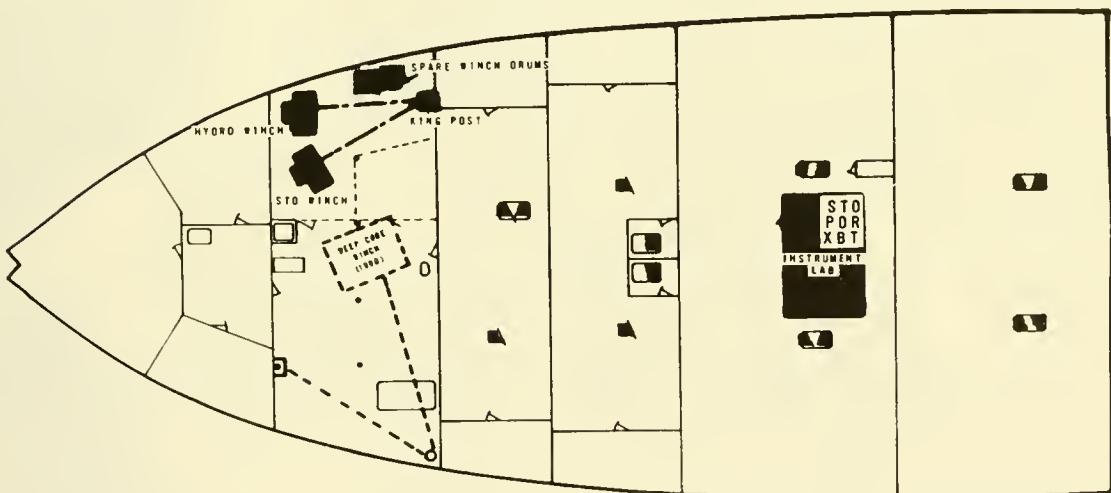
These data as well as additional data collected during IWSOE '69 are presently being analysed in detail and the results will be published in the near future.

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MAIN DECK AFT
OCEANOGRAPHIC SPACES



SECOND DECK AFT

Figure 1. USCGC GLACIER (WAGB 4) oceanographic alterations.

BUOY STATION

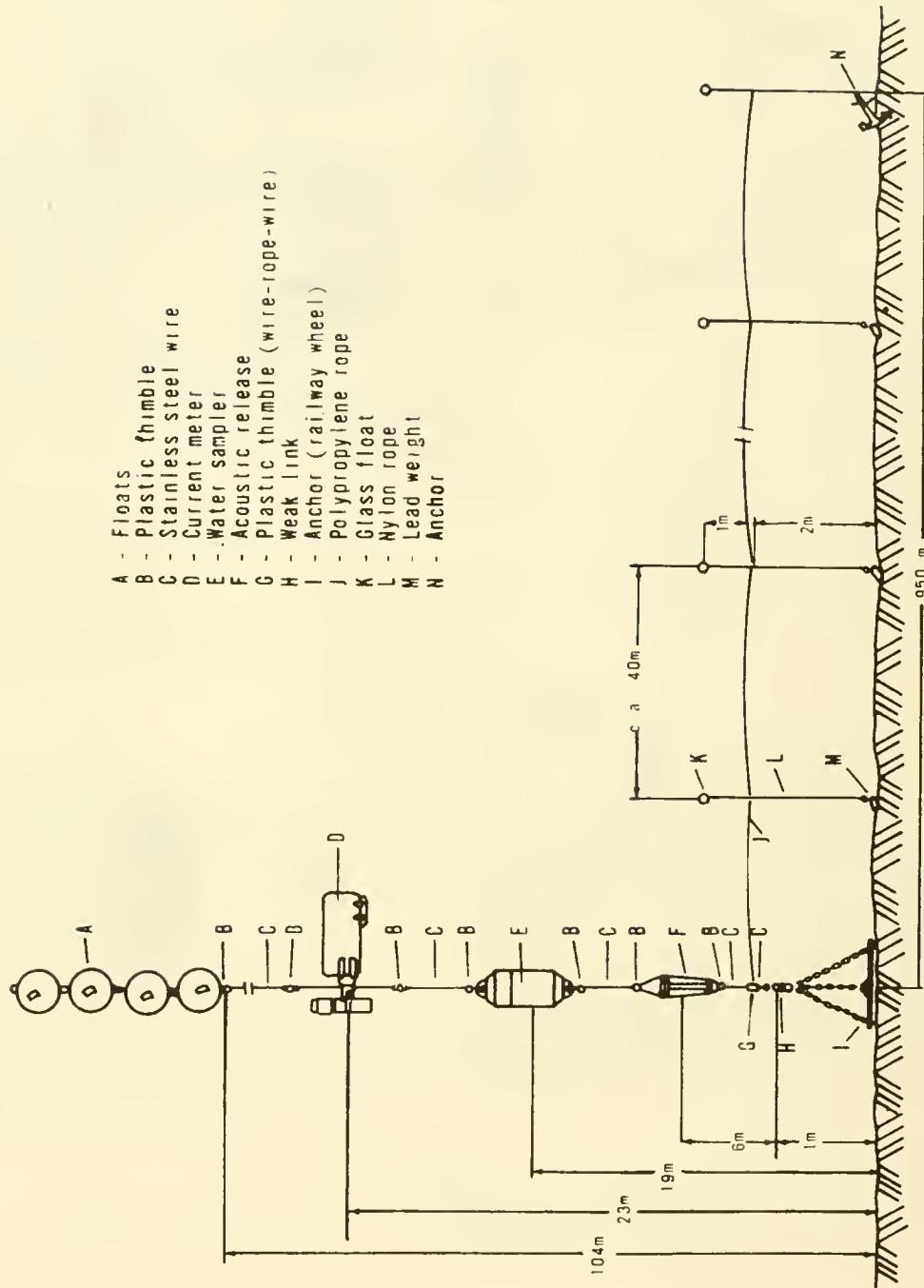


Figure 2. University of Bergen current meter system. After Kvinge, 1968.

STATION LOCATION CHART - IWSOE 1968

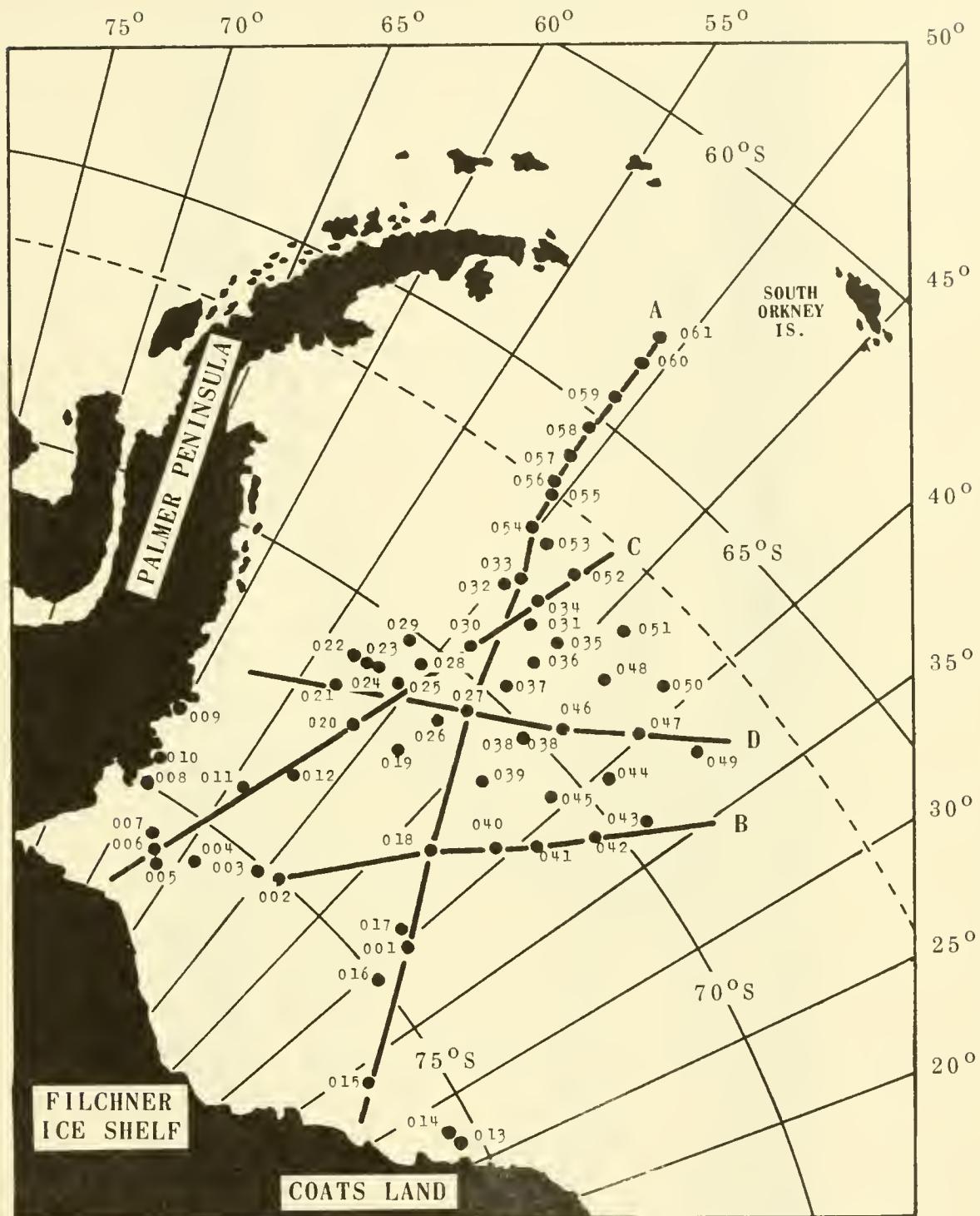


Figure 3. Locations of stations and sections for the 1968 International Weddell Sea Oceanographic Expedition.

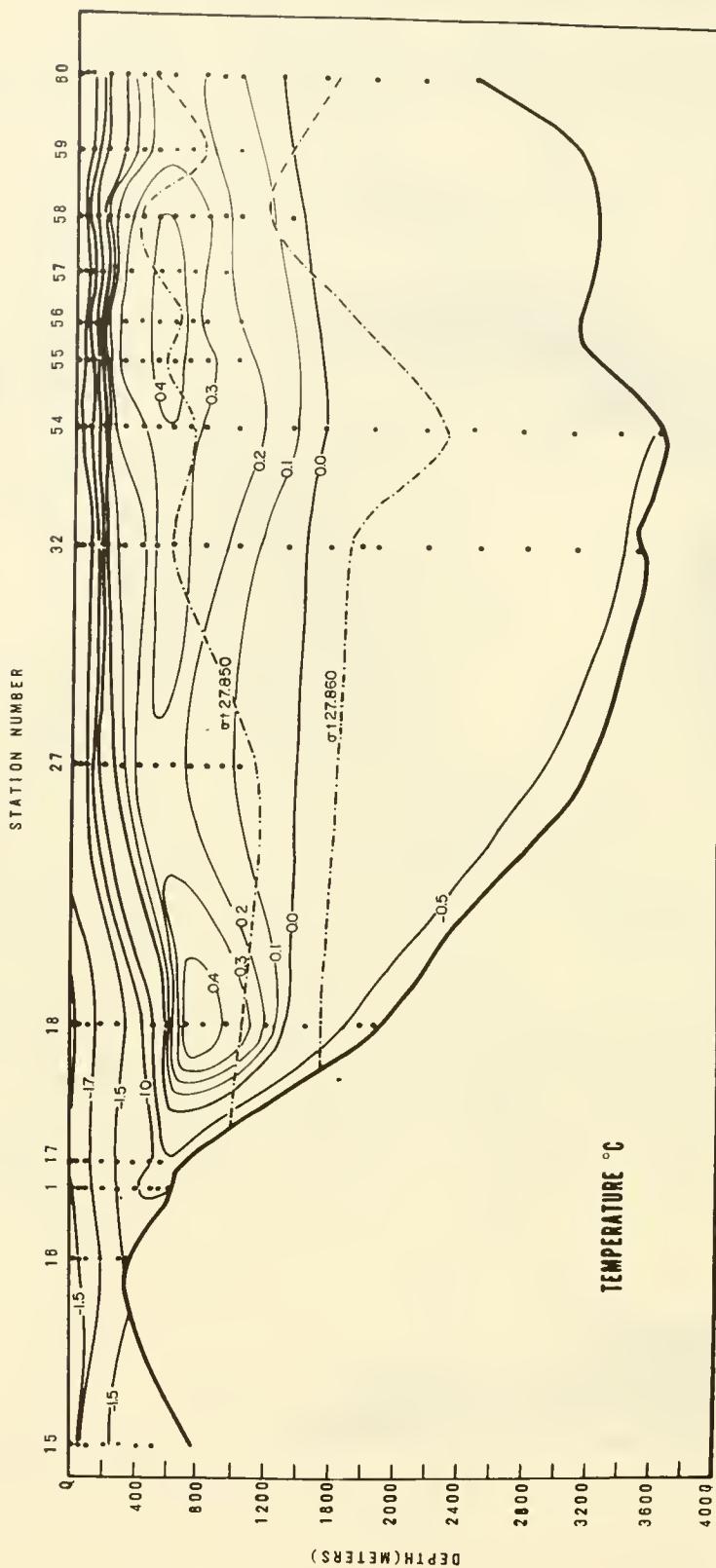


Figure 4. Vertical distribution of temperature ($^{\circ}\text{C}$) with selected isopycnals (σ_t , in g/l) along Section A. Contour intervals are 0.1°C in the 0.0 to 0.4°C range, 0.5°C in the 0.0 to -1.5°C range, and 0.2°C in the -1.5 to -1.7°C range.

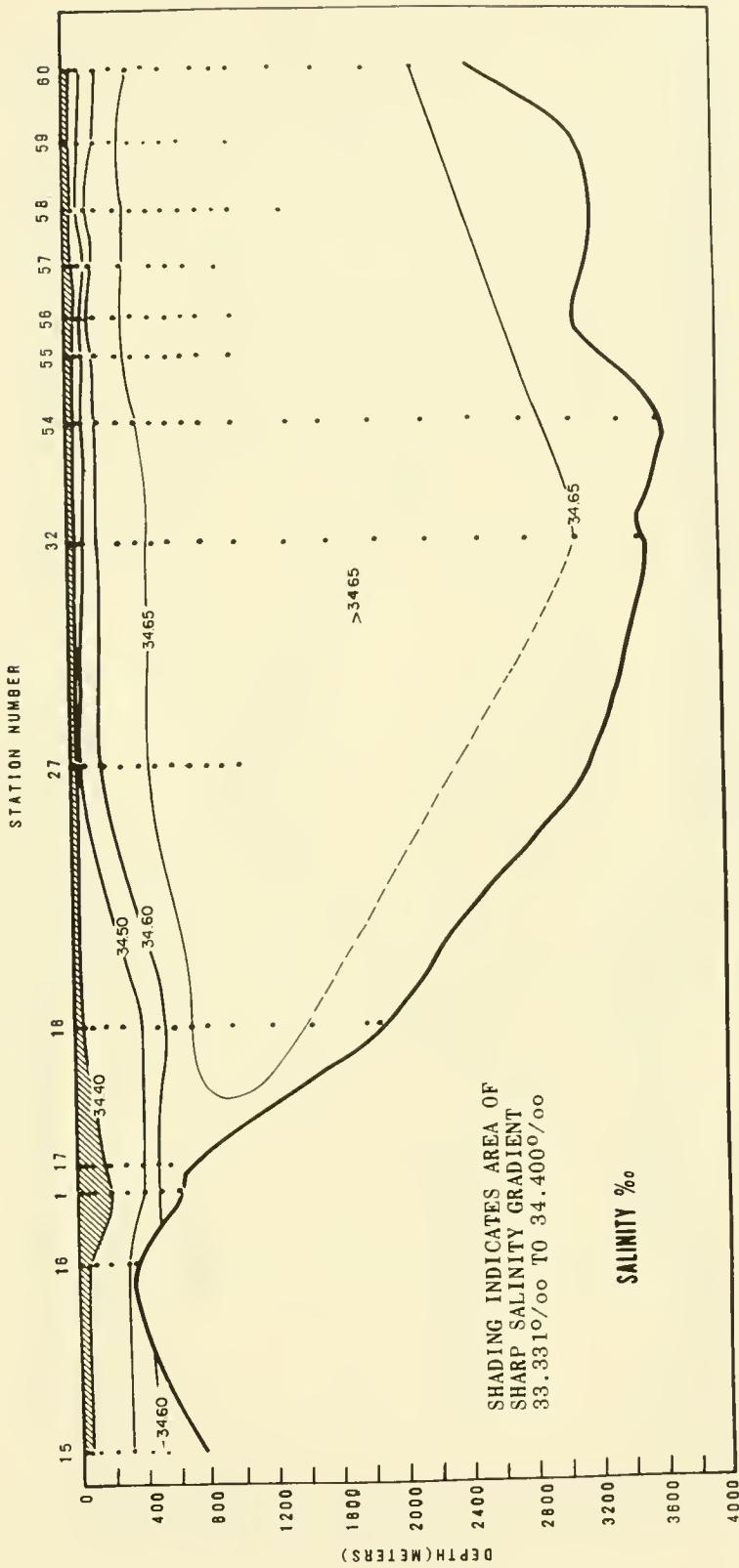


Figure 5. Vertical distribution of salinity (\textperthousand) along Section A. Values less than $34.40\text{\textperthousand}$ not contoured. Shading indicates area of sharp salinity gradient (33.331 \textperthousand to 34.400 \textperthousand).

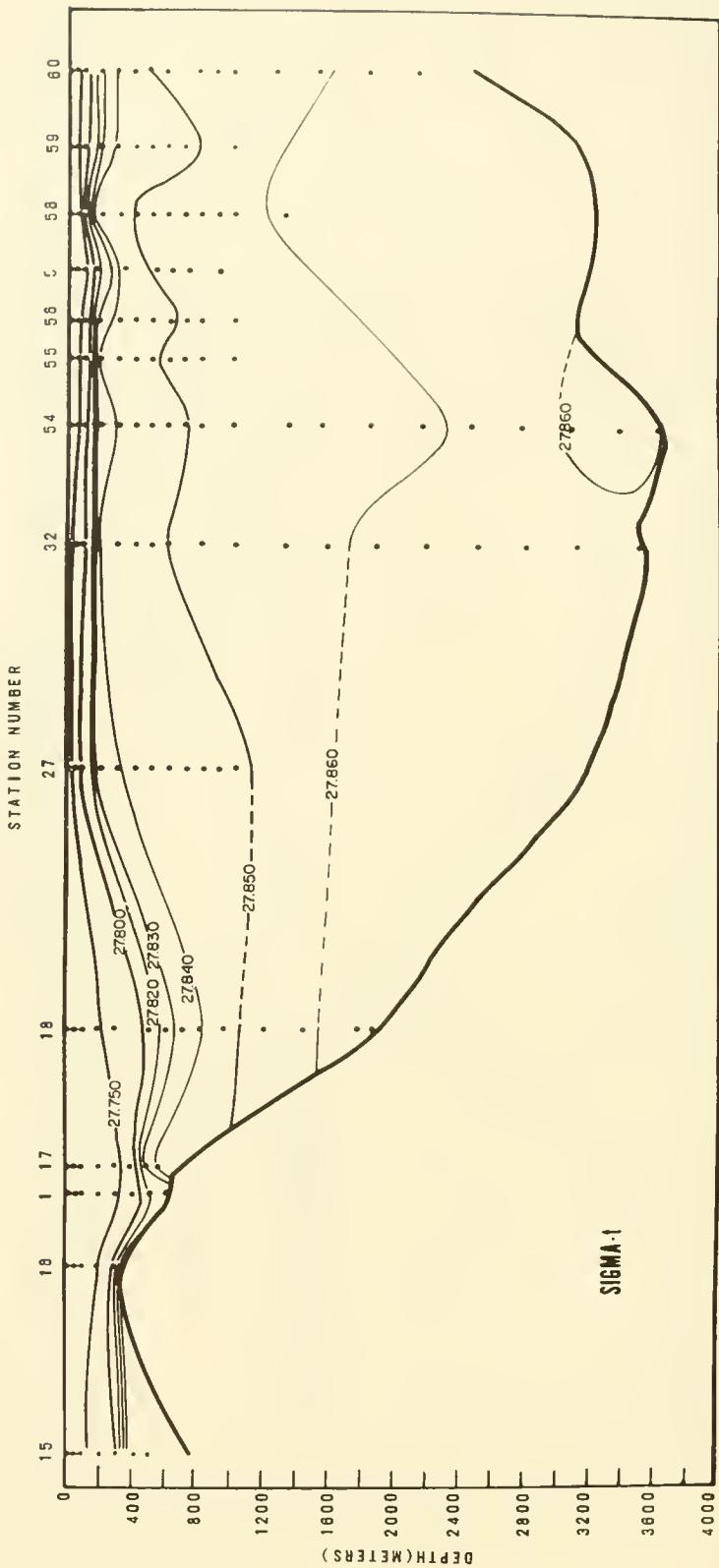


Figure 6. Vertical distribution of density (σ_t , in g/l) along Section A. Values less than 27.750 g/l not contoured.

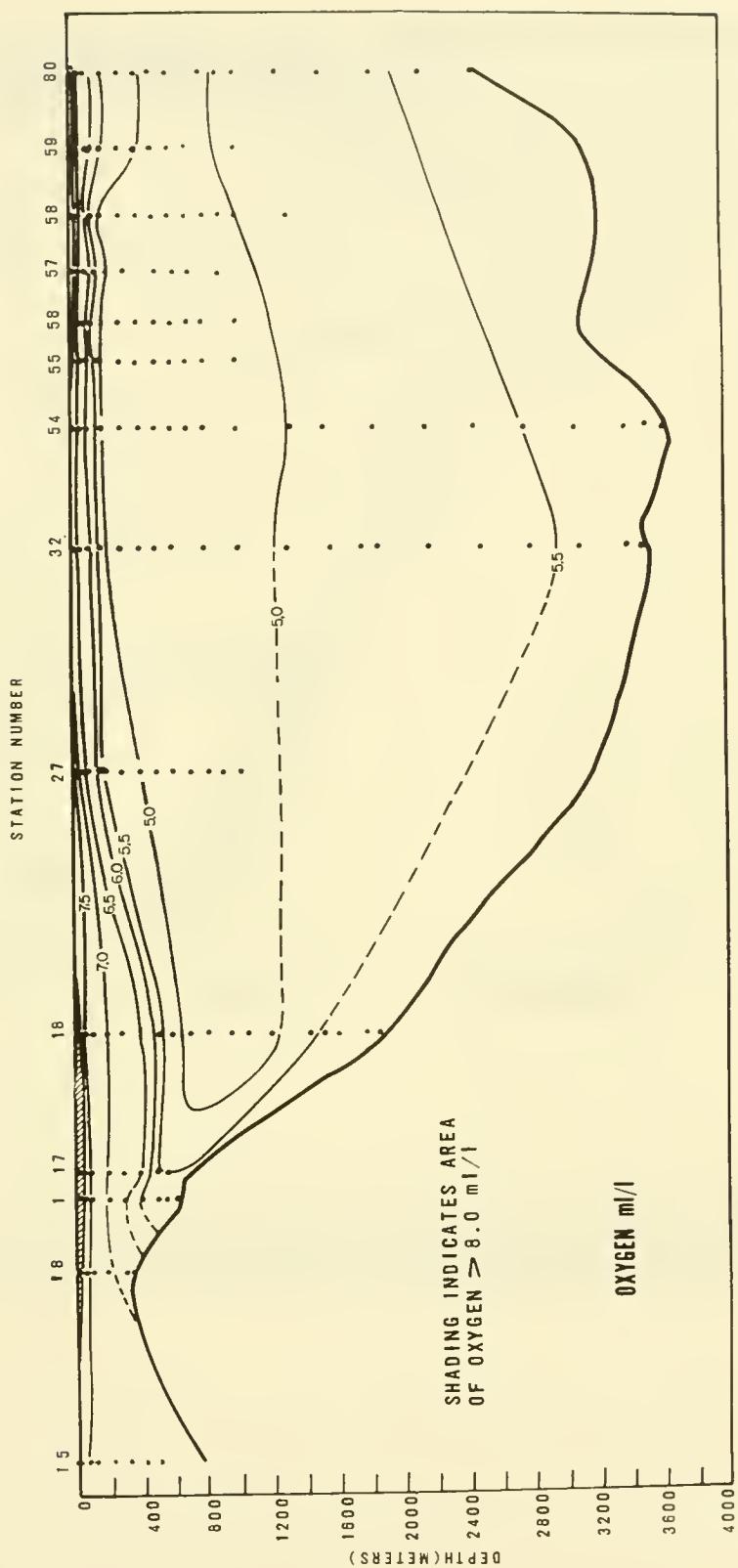


Figure 7. Vertical distribution of dissolved oxygen (ml/l) along Section A. Shading indicates area of oxygen greater than 8.0 ml/l.

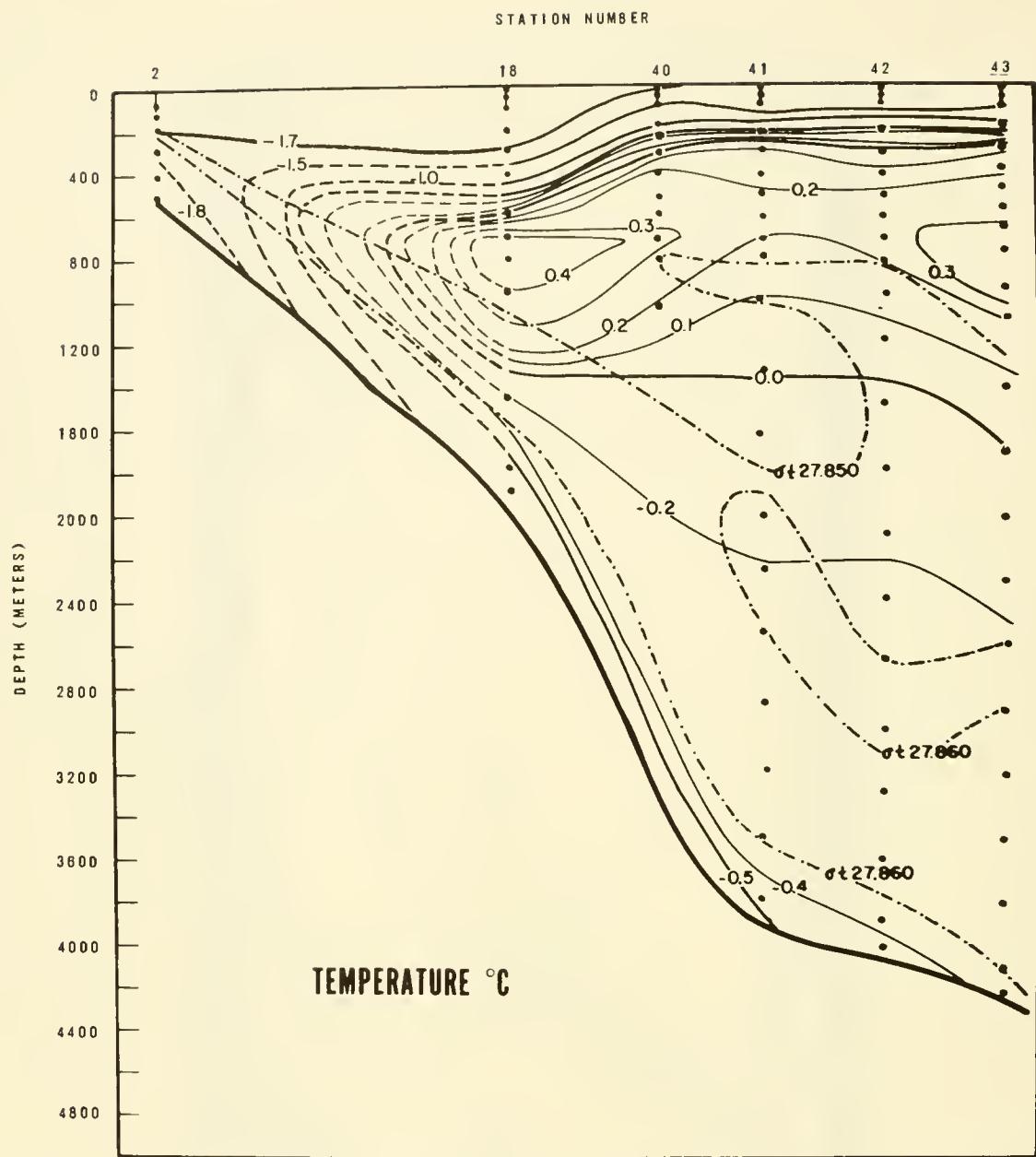


Figure 8. Vertical distribution of temperature ($^{\circ}\text{C}$) with selected isopycnals (σ_t in g/l) along Section B. Contour intervals are 0.1°C in the -0.4 to -0.5°C and 0.0 to 0.4°C ranges, 0.2°C in the -1.5 to -1.7°C and -0.4 to 0.0°C ranges and 0.5°C in the -1.5 to -0.5°C range.

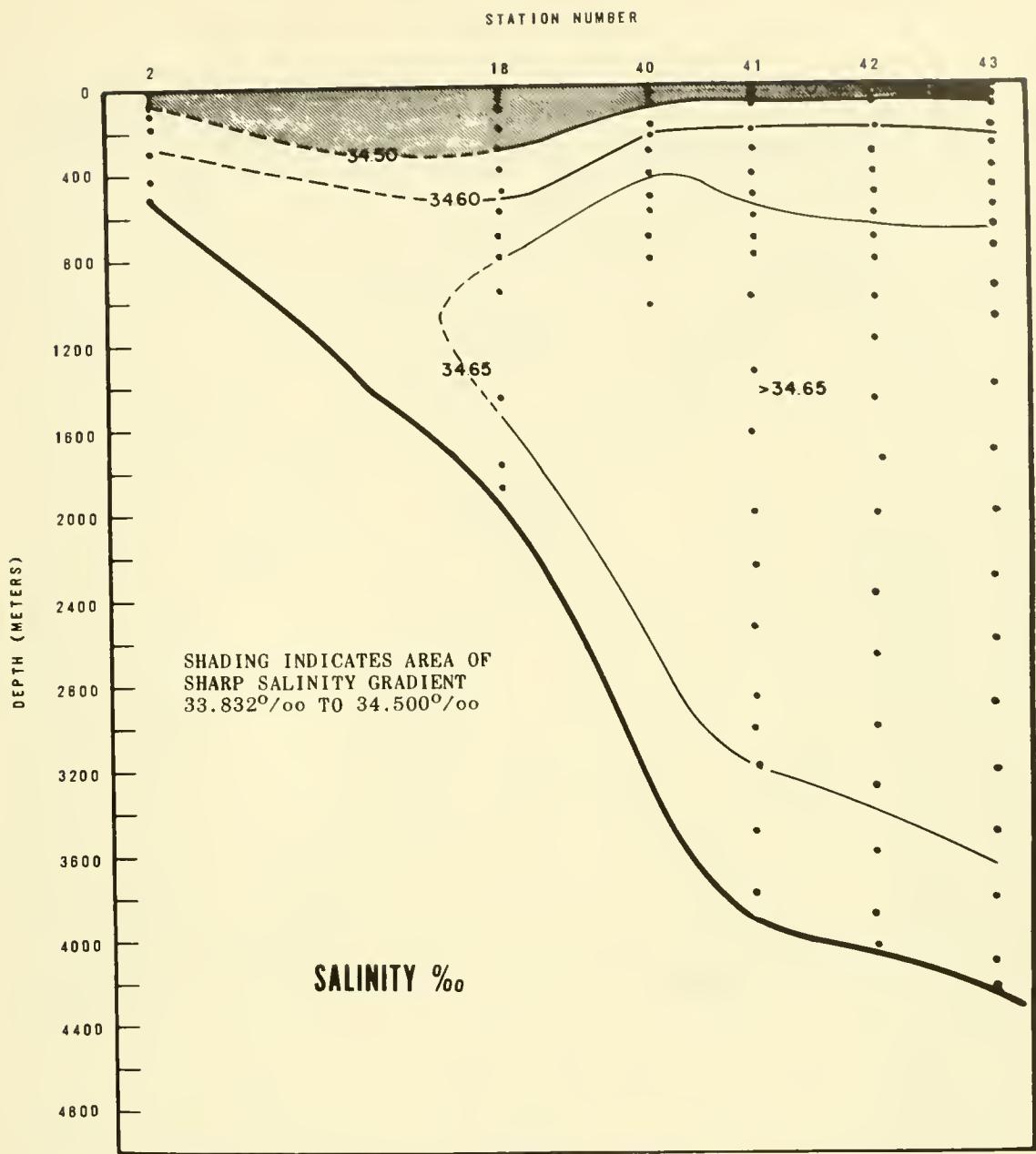


Figure 9. Vertical distribution of salinity ($^{\circ}/\infty$) along Section B. Values less than 34.50 $^{\circ}/\infty$ not contoured. Shading indicates area of sharp salinity gradient (33.832 $^{\circ}/\infty$ to 34.500 $^{\circ}/\infty$).

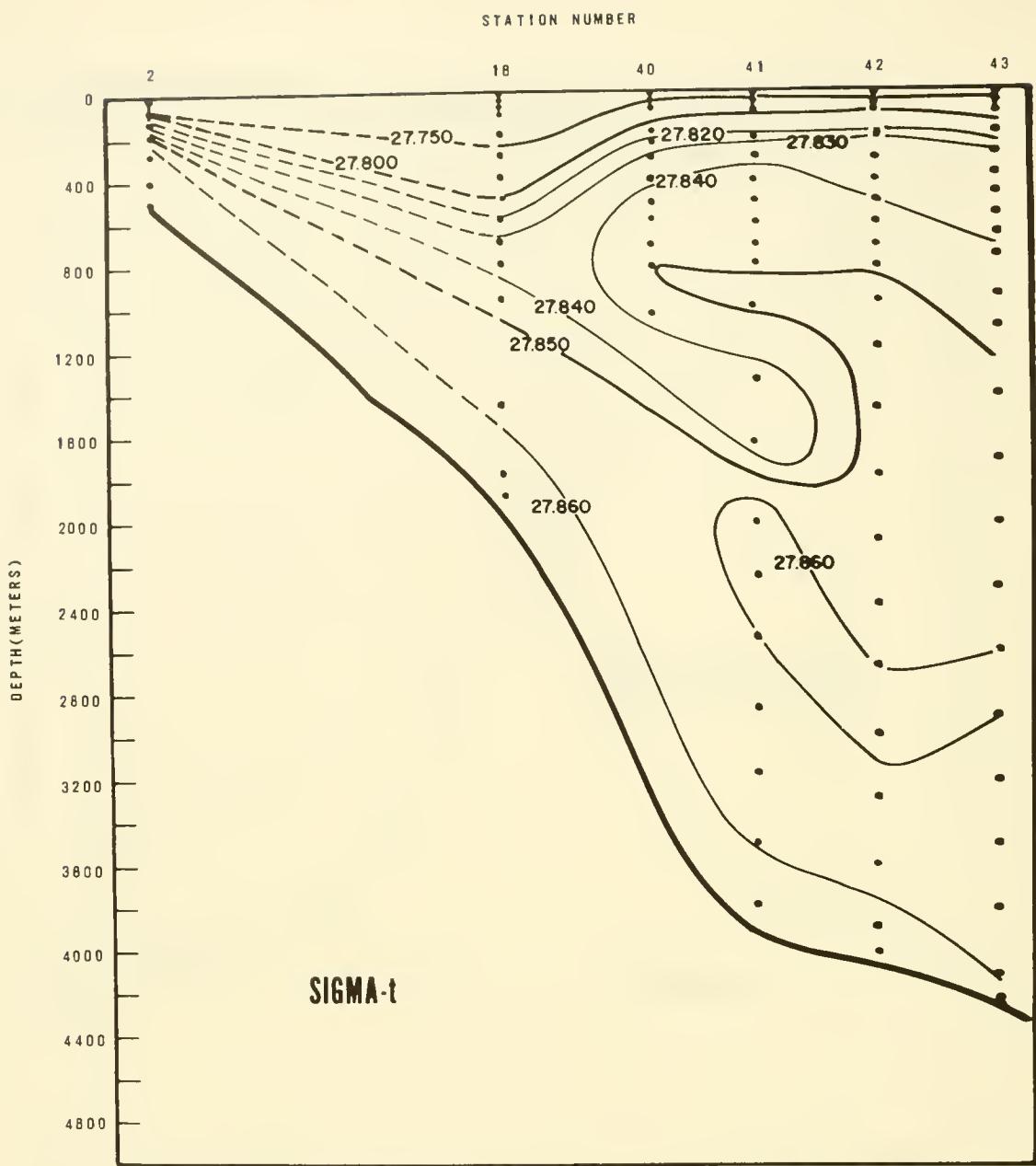


Figure 10. Vertical distribution of density (σ_t , in g/l) along Section B. Values less than 27.750 g/l not contoured.

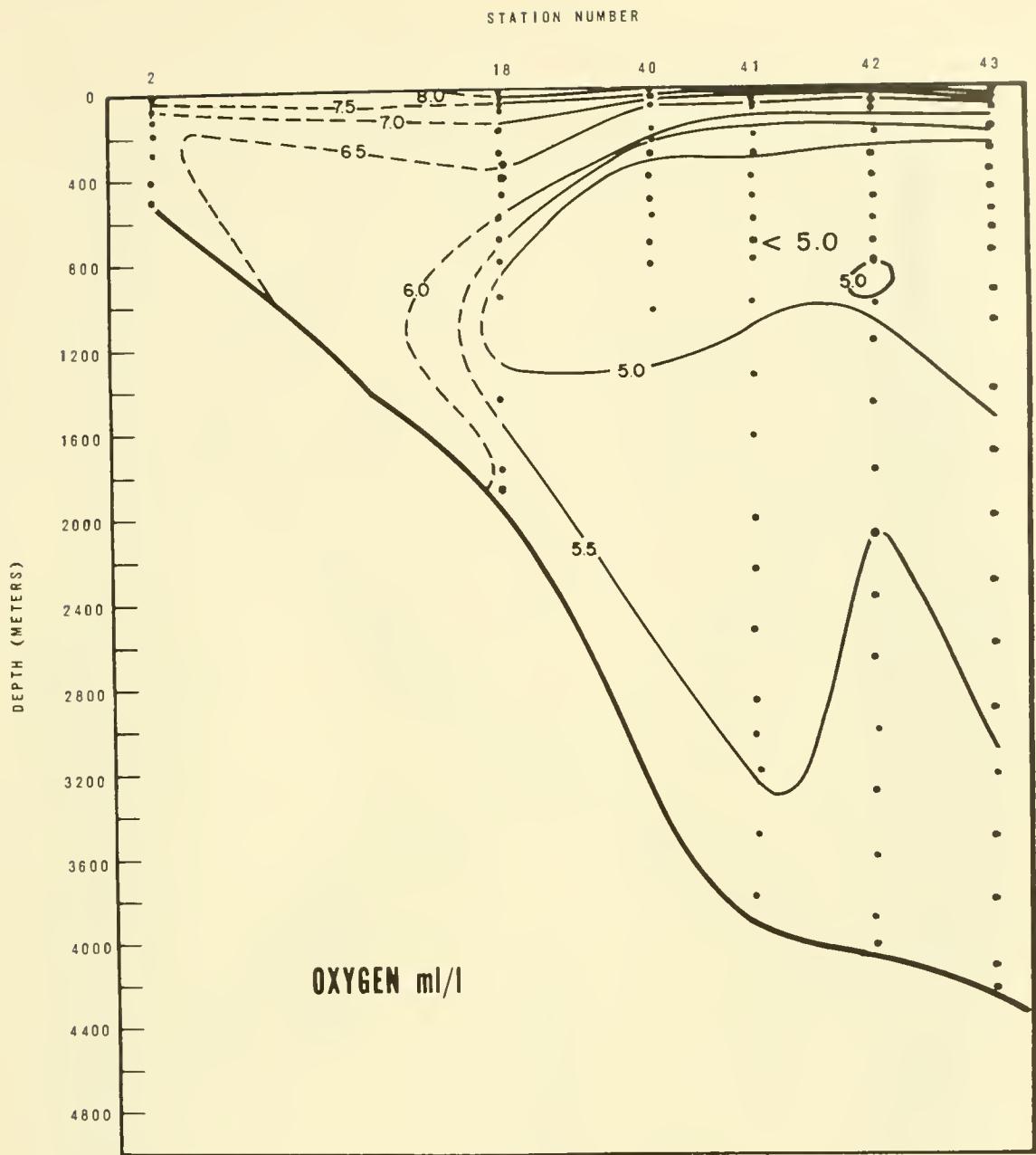


Figure 11. Vertical distribution of dissolved oxygen (ml/l) along Section B.

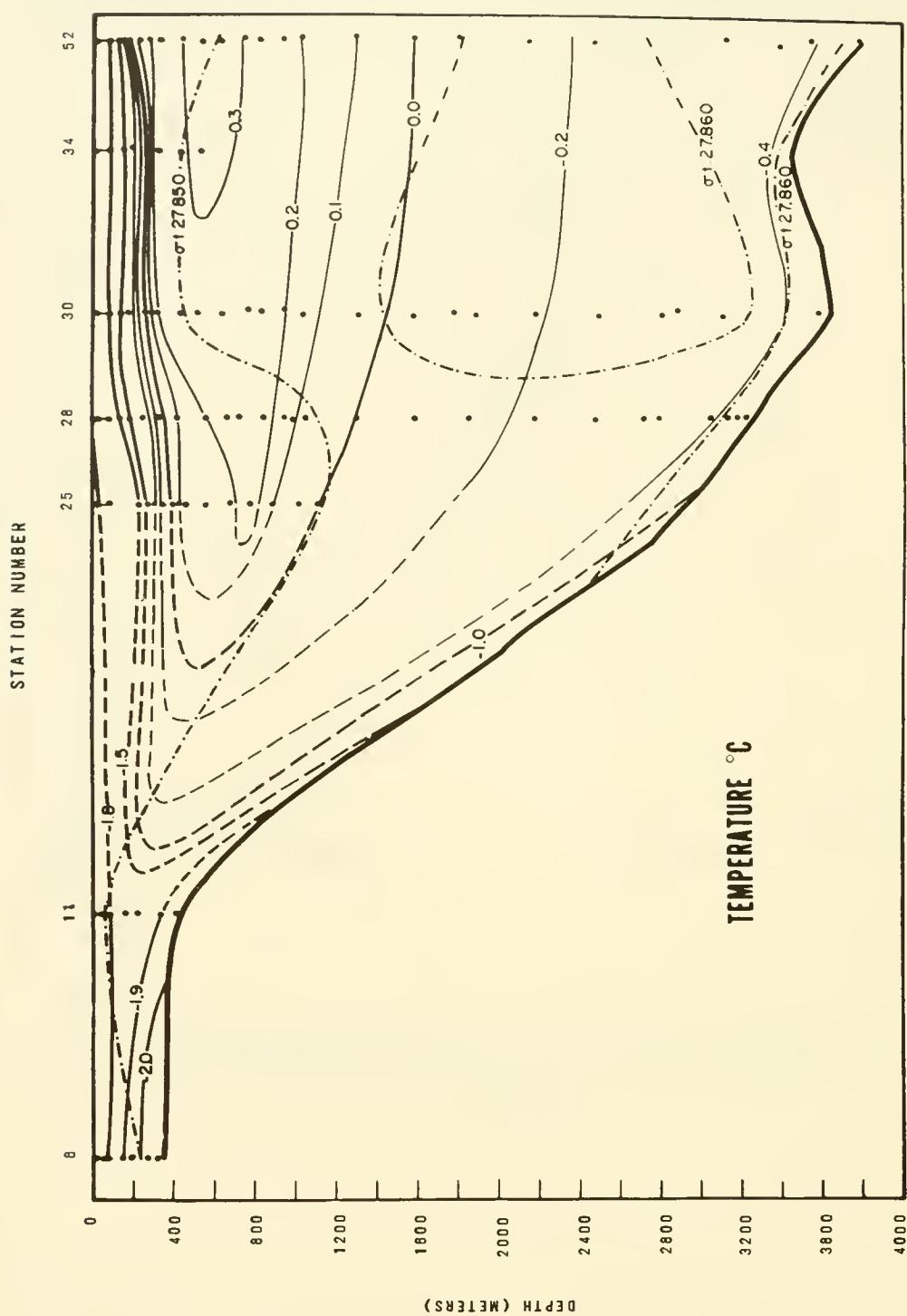


Figure 12. Vertical distribution of temperature ($^{\circ}\text{C}$) with selected isopycnals (σ_t , in g/l) along Section C. Contour intervals are 0.1°C in the 0.0 to 0.3°C range, 0.2°C in the 0.0 to -0.4°C range, 0.6°C in the -0.4 to -1.0°C range, 0.5°C in the -1.0 to -1.5°C range, 0.3°C in the -1.5 to -1.8°C range and 0.1°C in the -1.8 to -2.0°C range.

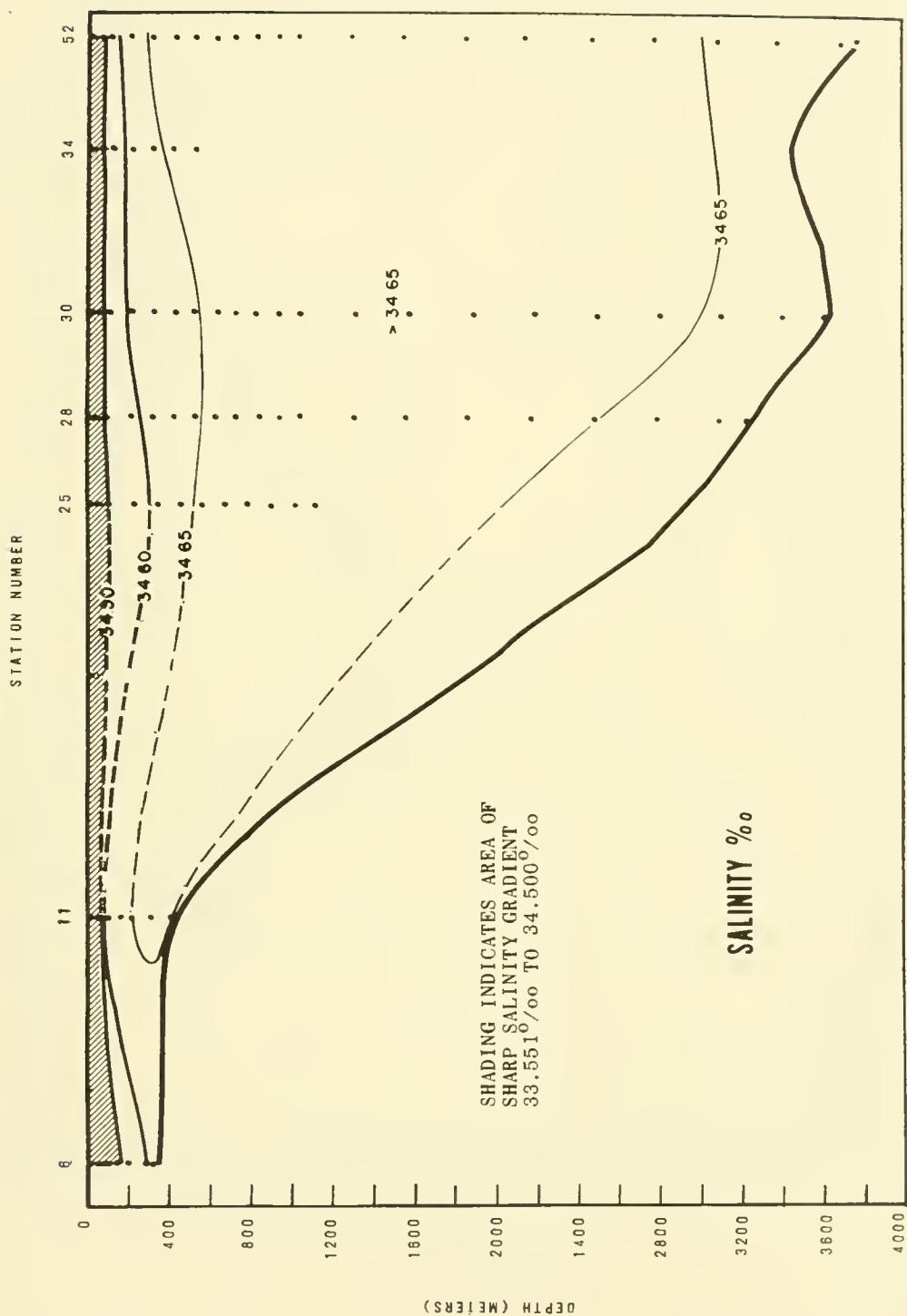


Figure 13. Vertical distribution of salinity (‰) along Section C. Values less than 34.50 ‰ not contoured. Shading indicates area of sharp salinity gradient (33.551 ‰ to 34.500 ‰).

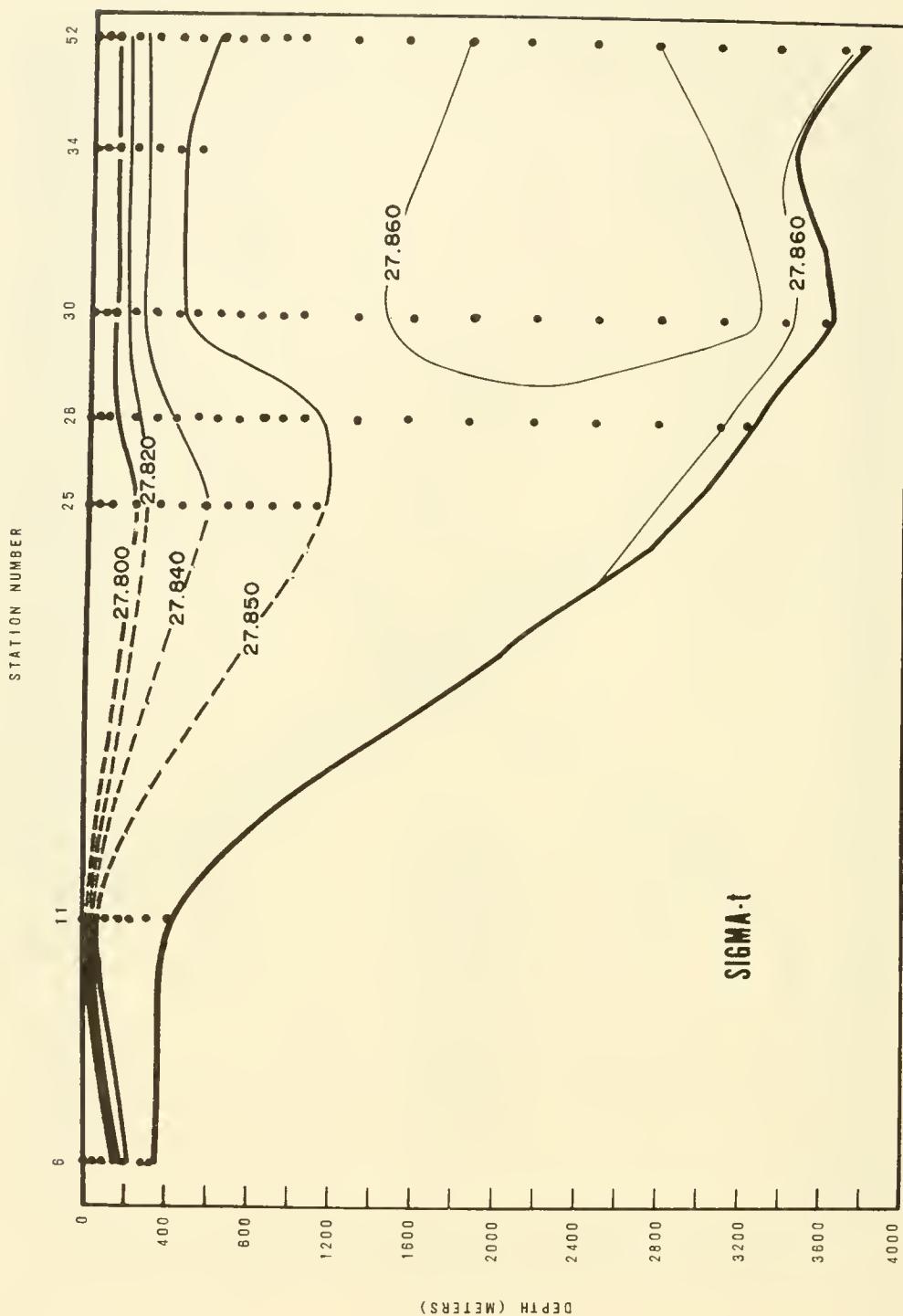


Figure 14. Vertical distribution of density (σ_t in g/l) along Section C. Values less than 27.800 g/l not contoured.

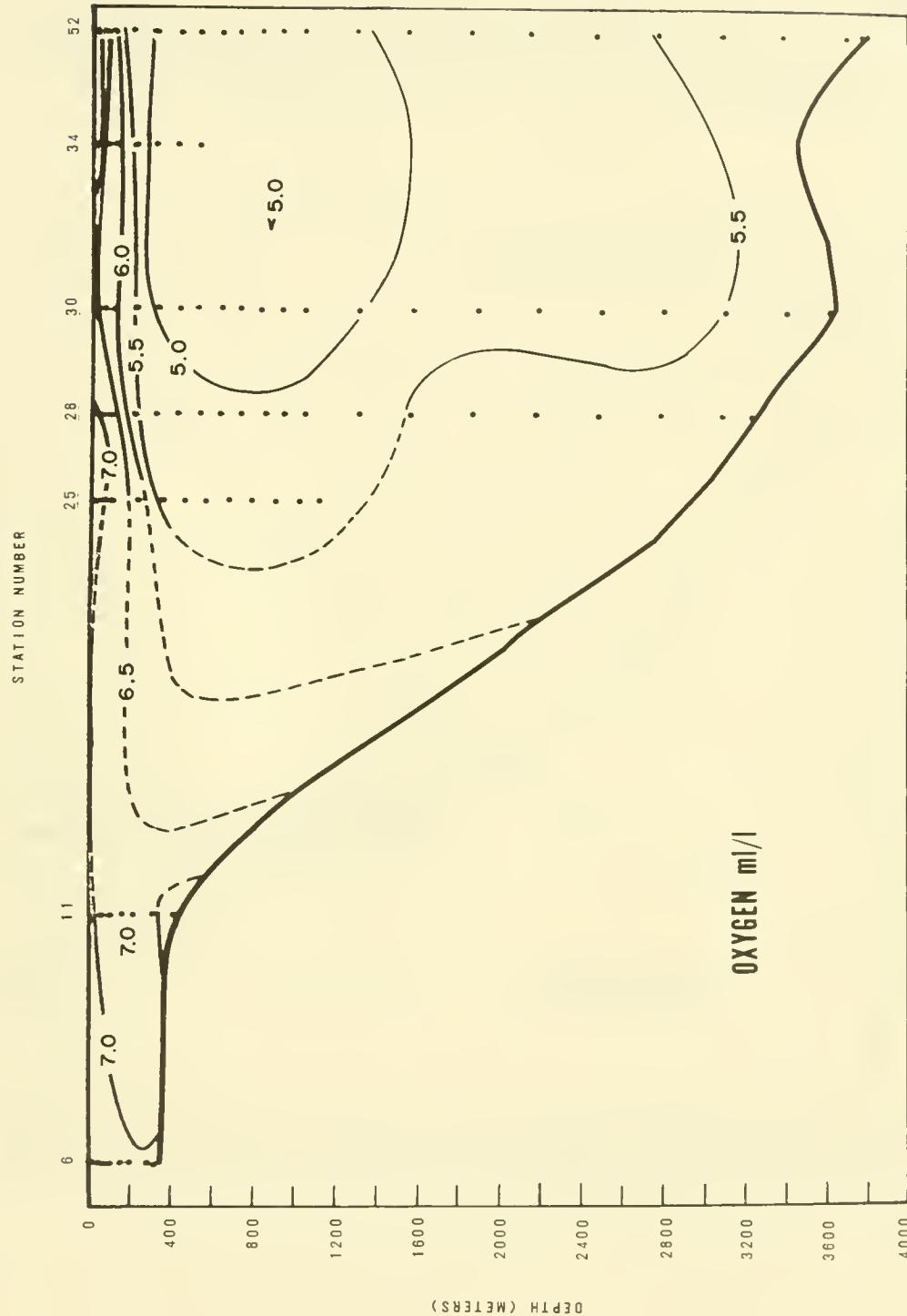


Figure 15. Vertical distribution of dissolved oxygen (ml/l) along Section C.

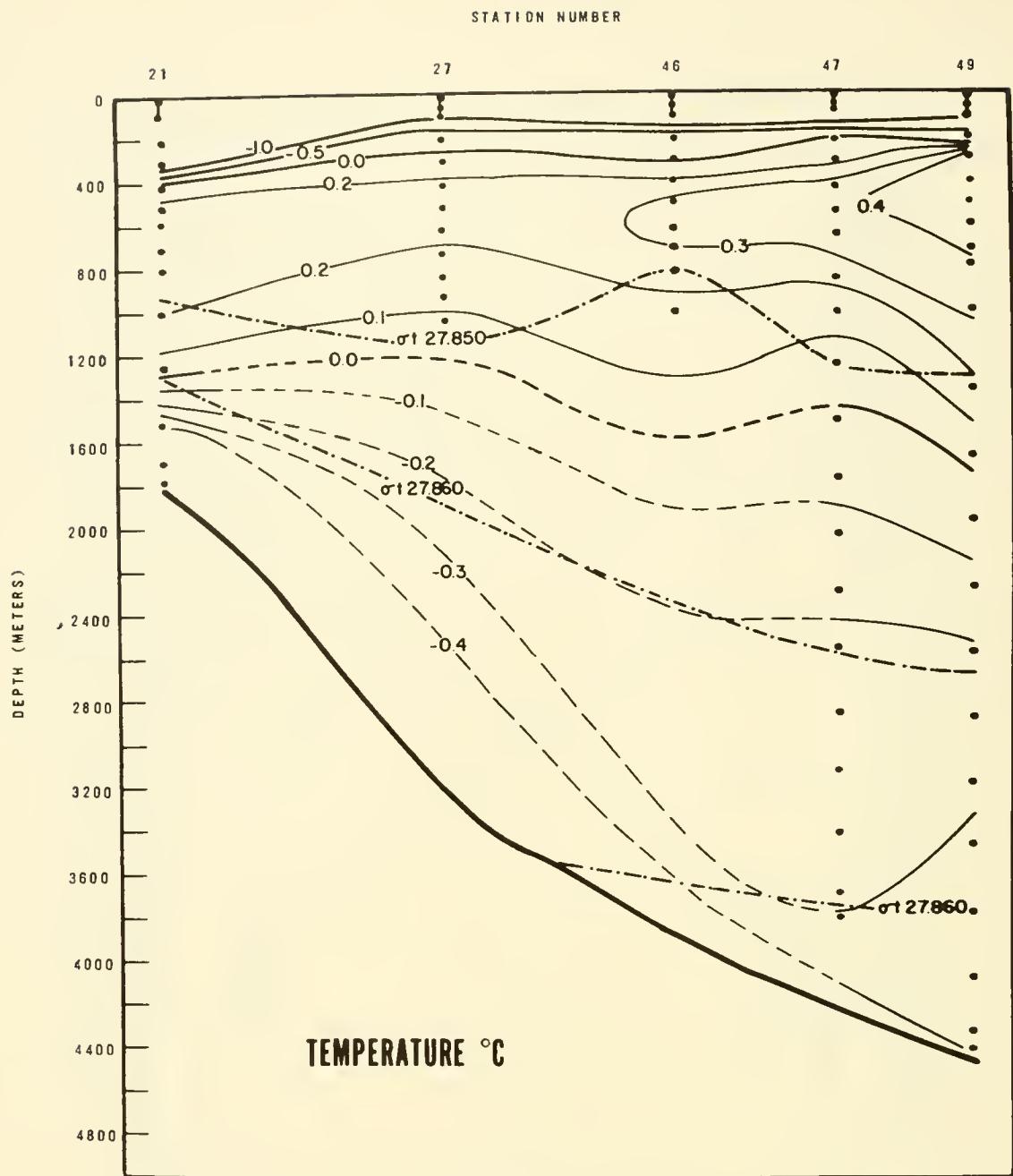


Figure 16. Vertical distribution of temperature ($^{\circ}\text{C}$) with selected isopycnals (σ_t , in g/l) along Section D.

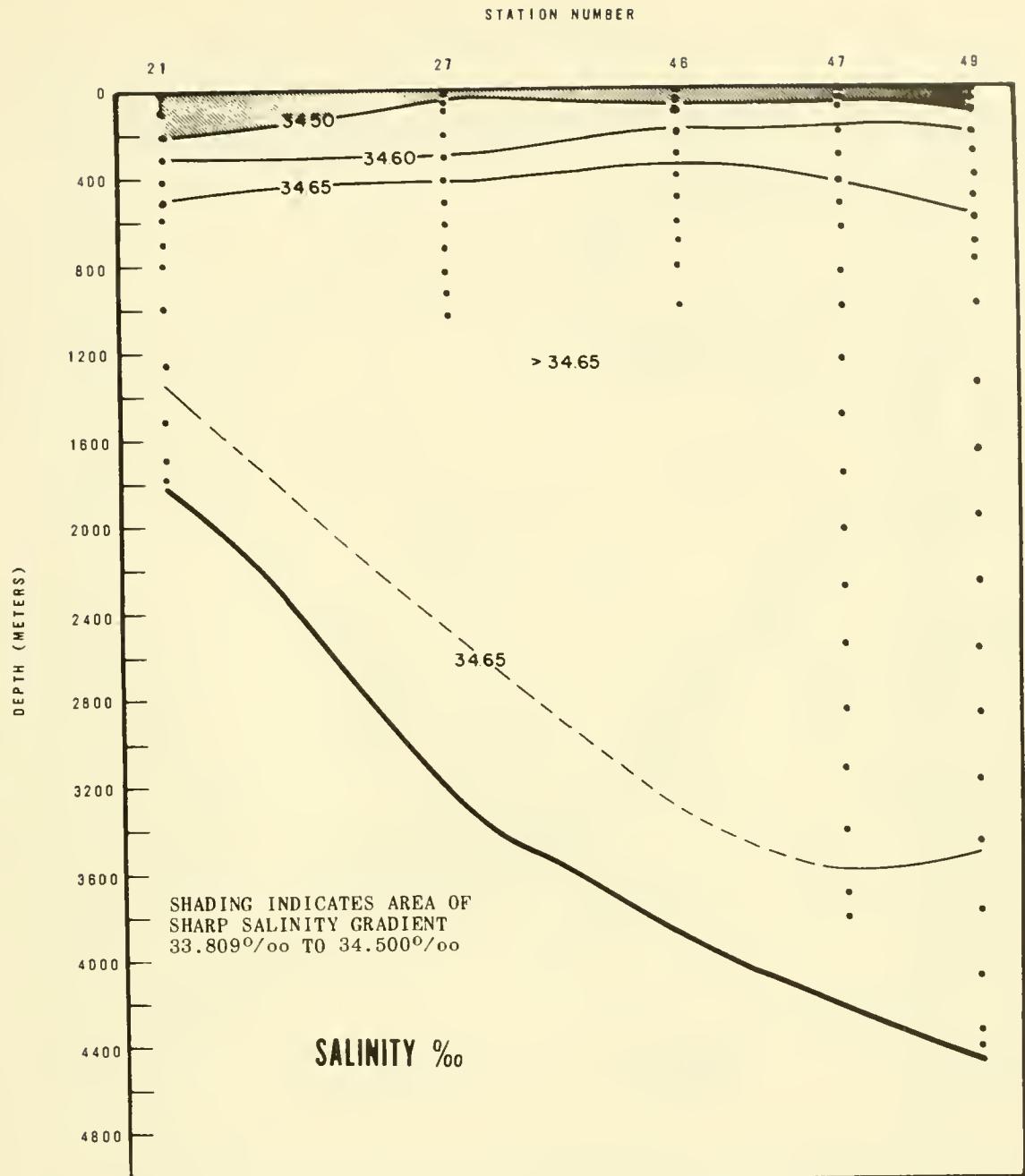


Figure 17. Vertical distribution of salinity (‰) along Section D. Values less than 34.50 ‰ not contoured. Shading indicates area of sharp salinity gradient (33.809 ‰ to 34.500 ‰).

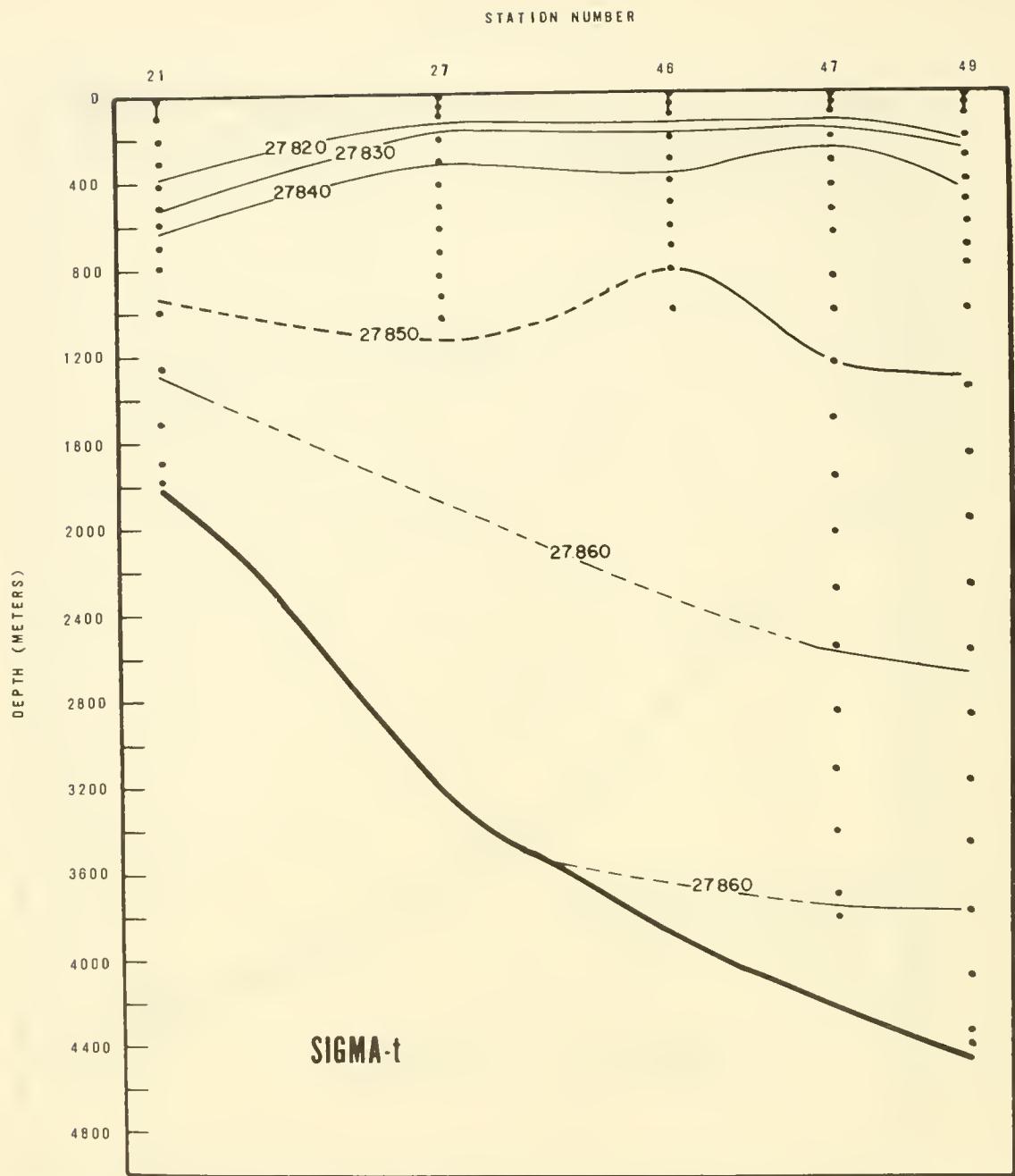


Figure 18. Vertical distribution of density (σ_t , in g/l) along Section D. Values less than 27.820 g/l not contoured.

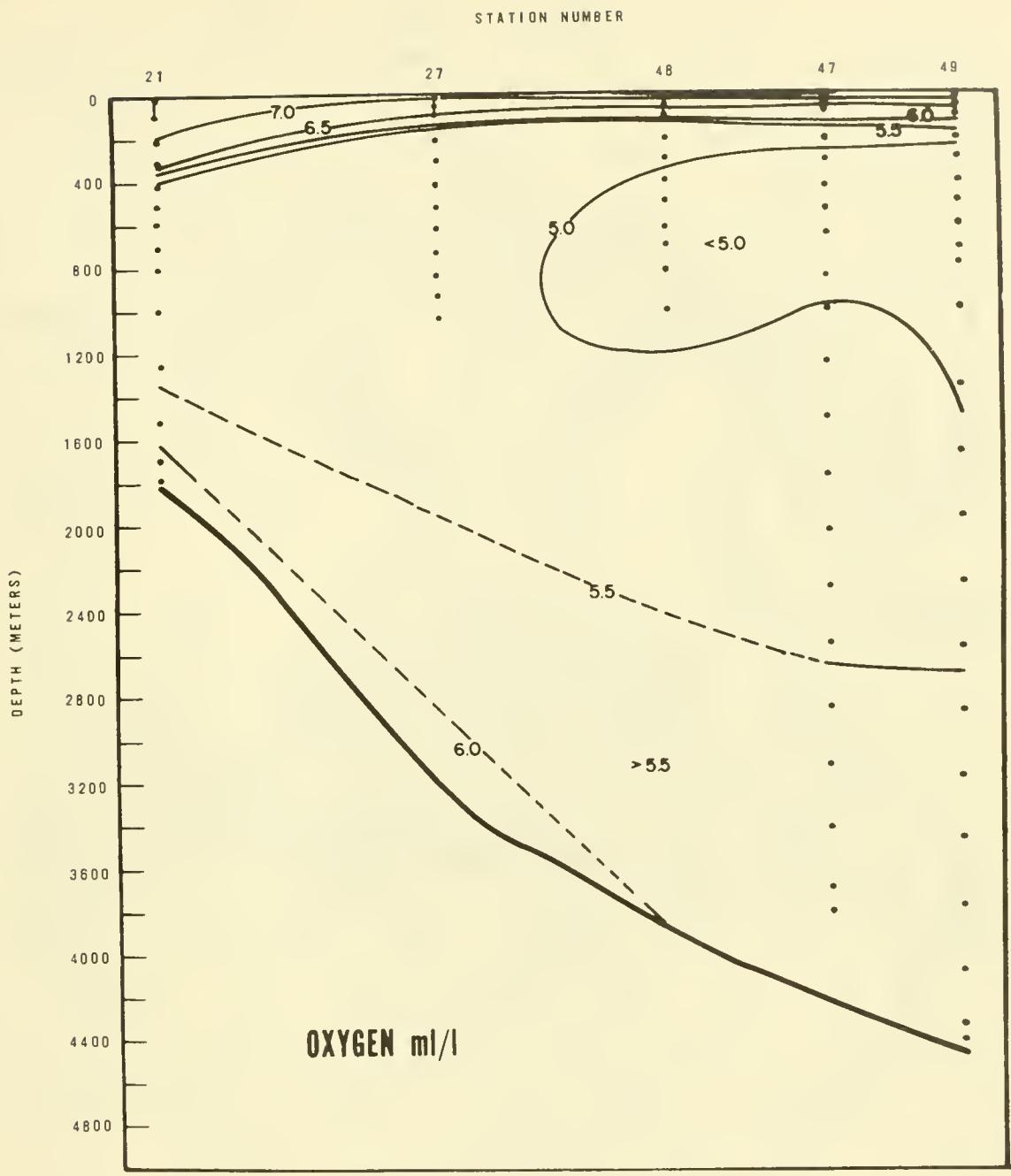


Figure 19. Vertical distribution of dissolved oxygen (ml/l) along Section D.

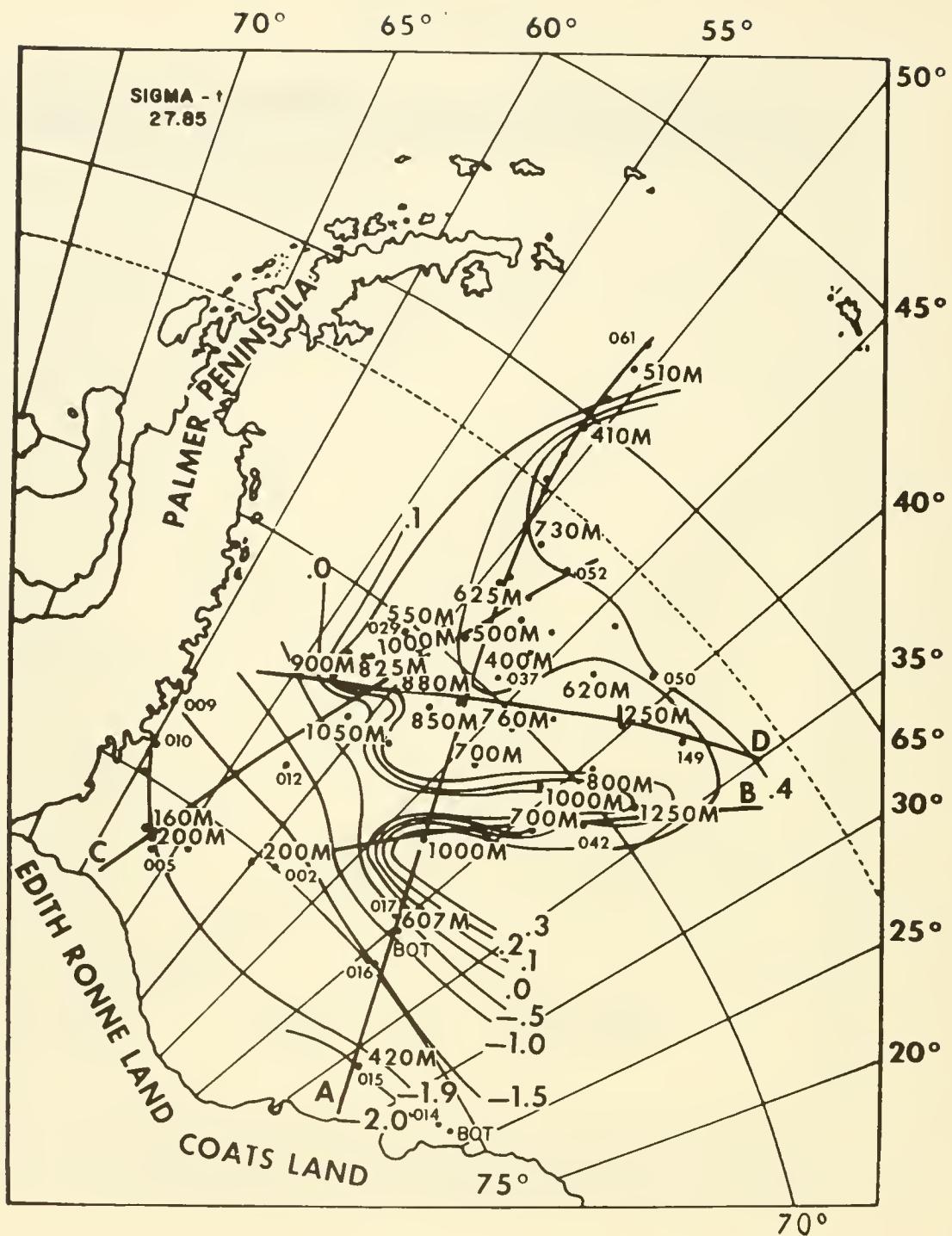


Figure 20. Distribution of temperature on the 27.85 g/l constant density (σ_t) surface, with point values of depth of the surface.

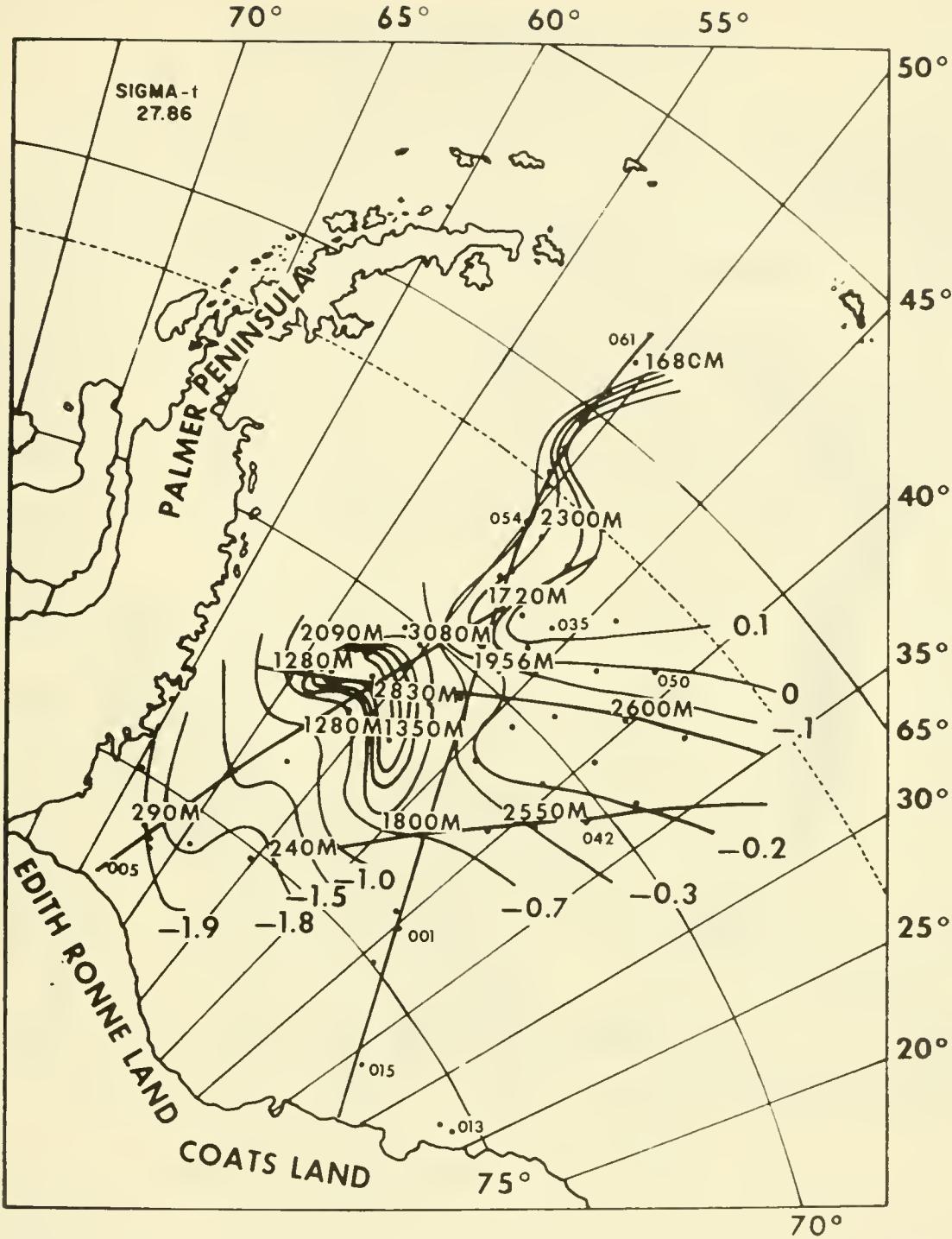


Figure 21. Distribution of temperature on the 27.86 g/l constant density (σ_t) surface, with point values of depth of the surface.

WEDDELL SEA BOTTOM TOPOGRAPHY

(prepared by Dr. Thor Kvinge)

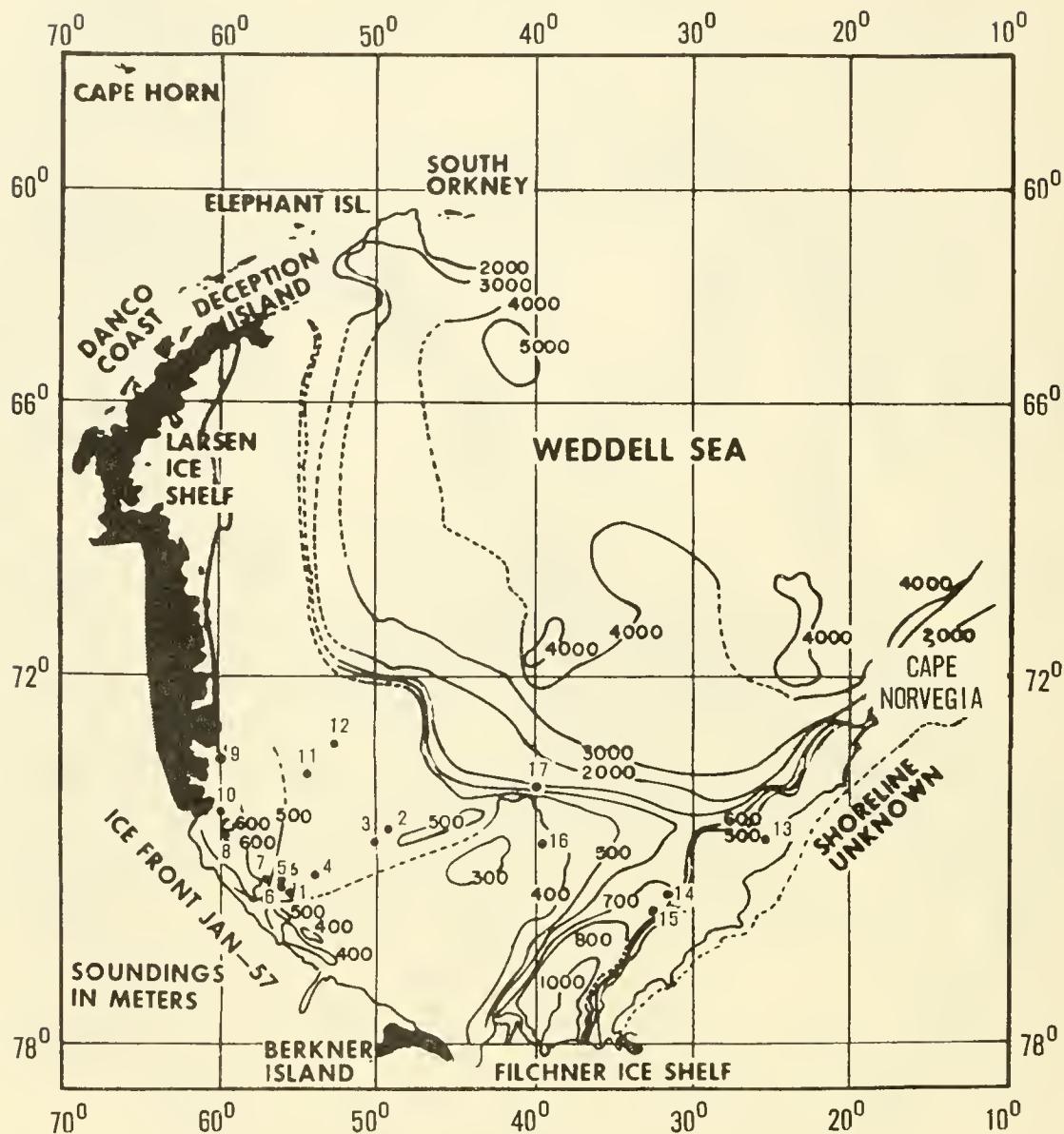


Figure 22. Weddell Sea bottom topography (prepared by Thor Kvinge).

APPENDIX A

OCEANOGRAPHIC DATA

A complete description of the codes utilized in the tabulation of oceanographic station data can be found in National Oceanographic Data Center publication M-2, *Processing Physical and Chemical Data from Oceanographic Stations*. (Rev. August 1964, supplement issued May 1966.)

To facilitate use of the oceanographic station data listing, entry headings which are not self-explanatory are described below.

Depth to Bottom	Corrected or uncorrected sounding in meters.
Max. Depth of Samples	Depth of deepest sample to nearest multiple of one hundred meters.
Wave observations	
DIR	Rounded to nearest multiple of ten degrees.
HGT	In increments of $\frac{1}{2}$ m. Sum of 5 meters plus increments of $\frac{1}{2}$ m if 50 is added to direction.
PER	If numerals 2 through 9 are entered, period in seconds is twice the numeric entry or $2X$ (numeric entry) + 1. For other entries see WMO Code 3155.
SEA	Sea state according to WMO Code 3700
Weather Code	If preceded by X, weather according to WMO Code 4501. If a two-digit entry, weather according to WMO Code 4677.
Cloud Code	
Type	Cloud type according to WMO Code 0500.
Amount	Cloud amount in eights. Entry of the numeral 9 indicates cloud amount could not be estimated.
Water	
Color Code	Color according to Forel-Ule scale.
Trans	Transparency in whole meters as determined by Secchi disc.
Wind	
Dir	Rounded to nearest multiple of ten degrees.
Speed or Force	If preceded by letter S, wind speed in knots; if preceded by letter F, wind force according to Beaufort scale.
Barometer	Barometric pressure given in tens, units and tenths of millibars.
Air Temp. ° C.	Air temperature to tenths of a degree centigrade.
Vis. Code	Visibility according to WMO Code 4300.
No obs. depths	Number of observed levels associated with the station.
Messenger time	Entered in hours and tenths of an hour GMT. For Nansen casts, indicates time of release of messenger applicable to the observational level. For STD casts, indicates the starting time of lowering the sensor.
Card type	OBS designates observed levels. STD indicates the values at this standard level were interpolated by a modified 3-point LaGrange formula.
Depth (m)	Depth to nearest meter. A postscript T indicates depth was obtained thermometrically; 5 indicates uncorrected "wire out" depth. Postscript Q indicates value was marked doubtful by originator; P indicates value was considered doubtful by NODC. Postscripts P and Q retain this meaning throughout the following entries.
T °C.	Temperature to hundredths of a degree Centigrade.
S °/oo	Salinity in parts-per-thousand.
SIGMA-T	Entered to hundredths.
Specific-volume	Multiply entry by 10^{-3} to obtain specific-volume anomaly in cubic centimeters per gram.
Anomaly—x 10^7	Multiply entry by 10^{-3} to obtain anomaly of dynamic height in dynamic meters referenced to the sea surface.
$\Sigma \Delta D$ Dyn. M. x 10^3	Sound velocity according to Wilson's formula entered to tenths of a meter per second.
Sound Velocity	Dissolved oxygen in milliliters per liter entered to hundredths.
O_2 ml/l	Inorganic phosphate in microgram-atoms per liter entered to hundredths.
PO ₄ -p $\mu\text{g-at/l}$	Total phosphorus in microgram-atoms per liter entered to hundredths.
Total P $\mu\text{g-at/l}$	Nitrite-nitrogen in microgram-atoms per liter entered to hundredths.
NO ₂ -N $\mu\text{g-at/l}$	Nitrate-nitrogen in microgram-atoms per liter entered to tenths.
NO ₃ -N $\mu\text{g-at/l}$	Silicate-silicon in microgram-atoms per liter entered to whole units.
SiO ₄ -Si $\mu\text{g-at/l}$	Entered to hundredths.
pH	Entered to hundredths.

MESSNGR TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- $\times 10^3$	$\Sigma \Delta D$ DYN. M. $\times 10^3$	SOUND VEL/CTY	D2 m/l	PO4-P µg - ol/l	NH3-N µg - ol/l	NO2-N µg - ol/l	ND3-N µg - ol/l	SI(O4-Si) µg - ol/l	pH	SOL CONC
										20	304	746	PO3-3	12			
		STD	0000	-0139	3386	2727	0008147	0000	14413	864							
208	OBS	0000	-0139	33864	2727				14413	864	156				224	044	825
	STD	0010	-0153	3387	2728	0008034	0008		14408	850							
208	OBS	0010	-0153	33873	2728				14408	850	159				199	045	826
	STD	0020	-0148	3406	2743	0006606	0015		14414	827							
208	OBS	0026	-0147	34152	2750				14417	815	176				245	053	825
	STD	0030	-0150	3418	2753	0005675	0022		14417	810							
	STD	0050	-0162	3429	2762	0004787	0032		14416	782							
208	OBS	0052	-0163	34295	2762				14416	779	188				237	065	826
	STD	0075	-0169	3434	2766	000437	0043		14418	744							
208	OBS	0077	-0170	34347	2767				14418	742	233				255	070	817
	STD	0100	-0177	3435	2767	0004257	0054		14418	728							
208	OBS	0103	-0175	34352	2767				14418	726	210				330	068	822
	STD	0125	-0179	3436	2768	000416	0065		14422	720							
	STD	0150	-0180	3437	2769	0004066	0075		14425	712							
208	OBS	T0155	-0180	34372	2769				14426	710	234				304	070	830
	STD	0200	-0179	3439	2770	0003885	0095		14434	688							
208	OBS	0207	-0178	34395	2771				14436	685	215				225	075	825
	STD	0250	-0166	3441	2772	0003744	0114		14449	672							
	STD	0300	-0151	3444	2774	000354*	0132		14465	652							
208	OBS	0312	-0147	34445	2774				14469	646	246				339	071	825
	STD	0400	-0112	3451	2778	0003123	0166		14501	587							
208	OBS	0416	-0107	34515	2778				14506	582	238				327	083	824
	STD	0500	-0105	3457	2783	0002664	0194		14522	595							
208	OBS	T0520	-00840	34573	27820					998	231				315	090	819
	STD	0600	-0103	3457	2783	0002642	0221		14539	579							
208	OBS	T0627	-0102	34561	2782				14544	566	249				311	094	830

REFERENCE CTRY CODE	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRAFT INCHES	MARSDEN SQUARE	STATION TIME (GMT)	YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLES	WAVE OBSERVATIONS			WEA- TER CODE	CLOUD CODES		NODE STATION NUMBER	
								CRUISE NO.	STATION NUMBER			DIRE.	SPEED OR FORCE	BARO- METER (mb)	AIR TEMP. °C	DRY BULB	WET BULB	VIS. CODE	NO. OBS. DEPTHS
318037	GL	74559S	048405W	556	48	02 08 044	1968	002	0560	05	00	0	X			X1	7	7	0003

MESSENGER TIME HR 1/10	CAST NO.	CARO TYPE	DEPTH (m)	T °C	S %	SIGMA-T	SPECIFIC VOLUME ANOMALY -10 ³	Σ Δ O OYN. M. X 10 ³	SOUND VELOCITY	AIR TEMP. °C			PO ₄ -P µg - ol/l	NH ₃ -N µg - ol/l	NO ₂ -N µg - ol/l	NO ₃ -N µg - ol/l	SiO ₂ -Si µg - ol/l	pH	SCC
										COLOR CODE	TRANS. lm	DIR.	SPEED OR FORCE	BARO- METER (mb)	DRY BULB	WET BULB	VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
044	STD	0000	-0169	3397	2736	0007255	0000	14400	786	14400	786	191	216	013	289	066	816		
044	OBS	0000	-0169	33970	2736					14401	797	191	117	020	303	065	816		
044	STD	0010	-0170	3397	2736	0007246	0007	14401	797	14408	786								
044	OBS	0010	-0170	33970	2736					14412	769	215	142	012	248	067	816		
044	STD	0020	-0166	3422	2756	000533	0014	14412	769	14414	733								
044	OBS	0027	-0165	34349	2767					14415	728	227	266	015	290	072	814		
044	STD	0030	-0166	3436	2768	0004251	0018	14415	728	14424	712								
044	STD	0050	-0169	3442	2773	0003770	0026	14426	690	14426	685	225	131	041	279	076	810		
044	OBS	0054	-0170	34431	2773			14429	680	14433	673								
044	STD	0075	-0159	3449	2778	0003248	0035	14442	661	14442	660	233	136	012	245	077	809		
044	OBS	0080	-0158	34499	2779			14447	669	14456	680	228	203	013	304	076	809		
044	STD	0100	-0166	3452	2781	0002985	0043	14456	680	14457	678								
044	OBS	0107	-0168	34529	2781			14457	678	14460	661								
044	STD	0125	-0168	3454	2782	0002812	0050	14460	661	14469	666								
044	STD	0150	-0168	3455	2783	0002722	0057	14472	687	14481	687	226	494	010	295	076	808		
044	OBS	T0159	-0168	34556	2784			14481	687	14486	680	227	212	010	311	082	801		
044	STD	0200	-0172	3457	2785	000253	0070	14489	676	14496	686								
044	OBS	0211	-0173	34578	2785			14496	686	14500	671	236	123	007	288	077	807		
044	STD	0250	-0176	3459	2786	0002337	0082	14500	671	14507	669								
044	STD	0300	-0179	3460	2787	0002223	0094	14507	669	14514	678								
044	OBS	0314	-0180	34605	2788			14514	678	14519	687	231	154	024	286	074	808		
044	STD	0400	-0183	3463	2790	0001926	0115	14519	687	14526	687	226	494	010	295	076	808		
044	OBS	0415	-0183	34632	2790			14526	687	14533	687								
044	OBS	0465	-0182	34650	2792			14533	687	14540	687								
044	STD	0500	-0183	3467	2793	0001564	0132	14540	687	14547	687	227	212	010	311	082	801		
044	OBS	T0515	-0184	34679	2794			14547	687	14554	687								

REFERENCE CTRY CODE	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRAFT INCHES	MARSDEN SQUARE	STATION TIME (GMT)	YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLES	WAVE OBSERVATIONS			WEA- TER CODE	CLOUD CODES		NODE STATION NUMBER		
								CRUISE NO.	STATION NUMBER			DIRE.	SPEED OR FORCE	BARO- METER (mb)	AIR TEMP. °C	DRY BULB	WET BULB	VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
318037	GL	7500 S	05021 W	557	50	02 08 180	1968	003	0503	05	00	0	X		X1	013		0004		
MESSENGER TIME HR 1/10	CAST NO.	CARO TYPE	DEPTH (m)	T °C	S %	SIGMA-T	SPECIFIC VOLUME ANOMALY -10 ³	Σ Δ O OYN. M. X 10 ³	SOUND VELOCITY	O ₂ m/l	AIR TEMP. °C			PO ₄ -P µg - ol/l	NN ₃ -N µg - ol/l	NO ₂ -N µg - ol/l	NO ₃ -N µg - ol/l	SiO ₄ -Si µg - ol/l	pH	SCC
											COLOR CODE	TRANS. lm	DIR.							
187	STD	0000	-0162	3400	2738	0007057	0000	14404												
187	OBS	0000	-0162	33998	2738			14410												
187	STD	0010	-0163	3438	2769	000413	0006	14410												
187	OBS	0010	-0163	34378	2769			14410												
187	STD	0020	-0173	3445	2775	0003524	0009	14408												
187	OBS	0020	-0173	34453	2775			14408												
187	STD	0030	-0178	3448	2778	0003275	0013	14408												
187	OBS	0030	-0178	34483	2778			14408												
187	STD	0032	-0172	34488	2778			14411												
187	STD	0050	-0174	3451	2780	0003044	0019	14414												
187	OBS	0050	-0174	34513	2780			14414												
187	STD	0075	-0174	3453	2782	0002876	0027	14418												
187	OBS	0075	-0174	34533	2782			14418												
187	STD	0100	-0174	3455	2783	0002747	0034	14422												
187	OBS	0100	-0174	34548	2783			14422												
187	STD	0125	-0179	3456	2784	0002643	0040	14424												
187	OBS	0125	-0179	34558	2784			14424												
187	STD	0150	-0181	3457	2785	0002546	0047	14428												
187	OBS	0150	-0181	34568	2785			14428												
187	OBS	0184	-0185	34578	2786			14431												
187	STD	0200	-0183	3458	2786	0002397	0059	14435												
187	OBS	0200	-0183	34583	2786			14435												
187	STD	0250	-0187	3460	2787	000224*	0071	14442												
187	OBS	0250	-0187	34598	2787			14442												
187	STD	0300	-0185	3462	2789	0002066	0082	14451												
187	OBS	0300	-0185	34618	2789			14451												
187	STD	0400	-0186	3465	2791	0001777	0101	14468												
187	OBS	0400	-0186	34648	2791			14468												
187	OBS	0458	-0186	34658	2792			14478												

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT INCLN	MARDEN SQUARE		STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMP'L'S	WAVE OBSERVATIONS			WEATHER CODE	CLOUD CODES		NODEC STATION NUMBER
CITY CODE	ID. NO.					10°	1°	MD	DAY		CRUISE NO.	STATION NUMBER			DRI. HGT PER SEA	X	X1	3	7		
318037	GL	760025	056457W			557	66	02	09	1968	005	0450	04	00	0	X	X1	3	7		0007

WATER		WIND		BARO-METER		AIR TEMP. °C		VIS. CODE		NO. OBS. DEPTHS		SPECIAL OBSERVATIONS		
COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE	DIR.	MB (mb)	DRY BULB	WET BULB	CODE	DEPTHS	DEPTHS	DEPTHS	DEPTHS	DEPTHS	
				24	S10	015	-080	-090	7	11				

MESSENGER TIME OF ND. HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S %	SIGMA-T	SPECIFIC VOLUME ANOMALY -10 ⁷	ΣΔD DYN. M. X 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P µg - ol/l	NH ₃ -N µg - ol/l	NO ₂ -N µg - ol/l	NO ₃ -N µg - ol/l	SiO ₂ -Si µg - ol/l	pH	SCC
171	STD	0000	-0167	3394	2734	0007467	0000	14401	911	14401	911	127	030	144	056	837	
171	OBS	0000	-0167	33943	2734			14410	944								
171	STD	0010	-0153	3401	2739	0006990	0007	14410	944	14410	944	146	223	016	164	057	840
171	OBS	0010	-0153	34009	2739			14413	904								
171	OBS	0020	-0154	3413	2749	0006053	0014	14414	886	14414	886	181	212	014	198	060	830
171	STD	0030	-0155	34176	2752			14413	873								
171	STD	0050	-0171	3435	2767	0004302	0029	14413	826								
171	OBS	0051	-0172	34360	2768			14412	824	14412	824	202	229	017	258	068	821
171	STD	0075	-0182	3443	2774	0003645	0039	14413	785								
171	OBS	0077	-0183	34437	2774			14413	781	14413	781	223	526	014	293	071	815
171	STD	0100	-0186	3444	2775	0003544	0048	14415	718								
171	OBS	0102	-0186	34440	2775			14415	714	14415	714	235	131	022	291	072	819
171	STD	0125	-0185	3445	2775	0003493	0057	14420	713								
171	STD	0150	-0183	3445	2775	0003444	0065	14425	712								
171	OBS	T0154	-0183	34451	2775			14426	712	14426	712	258	239	015	289	072	815
171	STD	0200	-0176	3446	2776	0003359	0082	14437	721								
171	OBS	0206	-0175	34462	2776			14438	722	14438	722	227	136	013	290	073	816
171	STD	0250	-0173	3449	2778	0003109	0099	14447	694								
171	STD	0300	-0171	3453	2781	0002783	0113	14457	677								
171	OBS	T0308	-0171	34534	2782			14458	676	14458	676	231	158	030	313	075	816
171	STD	0400	-0181	3466	2792	0001703	0136	14471	695								
171	OBS	T0414	-0183	34674	2793			14472	698	14472	698	220	426	009	300	074	815
171	OBS	T0443	-0188	34694	2795			14475	688	14475	688	225	167	012	290	073	820

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRIFT INCLN	MARDEN SQUARE		STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMP'L'S	WAVE OBSERVATIONS			WEATHER CODE	CLOUD CODES		NODEC STATION NUMBER	
CITY CODE	ID. NO.					10°	1°	MD	DAY		CRUISE NO.	STATION NUMBER			DRI. HGT PER SEA	X	X1	3	7			
318037	GL	755335	057239W			557	57	02	10	030	1968	006	0360	03	00	0	X	X1	0	3		00081

WATER		WIND		BARO-METER		AIR TEMP. °C		VIS. CODE		NO. OBS. DEPTHS		SPECIAL OBSERVATIONS			
COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE	DIR.	MB (mb)	DRY BULB	WET BULB	CODE	DEPTHS	DEPTHS	DEPTHS	DEPTHS	DEPTHS		
				DT	SD	18	S10	015	-108	-110	7	14			

MESSENGER TIME OF ND. HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S %	SIGMA-T	SPECIFIC VOLUME ANOMALY -10 ⁷	ΣΔD DYN. M. X 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P µg - ol/l	NH ₃ -N µg - ol/l	NO ₂ -N µg - ol/l	NO ₃ -N µg - ol/l	SiO ₂ -Si µg - ol/l	pH	SCC
023	STD	0000	-0184	3384	2726	0008236	0000	14391									
023	OBS	0000	-0184	33838	2726			14391									
023	STD	0010	-0171	3425	2759	0005109	0007	14405									
023	OBS	0012	-0146	34248	2758			14417									
023	STD	0020	-0159	3428	2761	0004904	0012	14412									
023	OBS	0020	-0159	34278	2761			14412									
023	STD	0030	-0174	3434	2766	0004398	0016	14408									
023	OBS	0030	-0174	34338	2766			14408									
023	STD	0050	-0180	3439	2770	0003988	0025	14409									
023	OBS	0050	-0180	34388	2770			14409									
023	STD	0075	-0181	3442	2773	0003748	0034	14413									
023	OBS	0075	-0181	34417	2773			14413									
023	STD	0100	-0183	3446	2776	0003413	0043	14417									
023	OBS	0100	-0183	34458	2776			14417									
023	STD	0125	-0188	34467	2777	0003308	0052	14419									
023	OBS	0125	-0188	34468	2777			14419									
023	STD	0150	-0199	3450	2780	0002995	0060	14418									
023	OBS	0150	-0199	34503	2780			14418									
023	STD	0200	-0212	34568	2786	0002432	0073	14421									
023	OBS	0200	-0212	34568	2786	0002312	0085	14429									
023	STD	0250	-0213	3458	2786			14429									
023	OBS	0250	-0213	34579	2786			14429									
023	STD	0300		3459													
023	OBS	0300		34588													
023	OBS	0340		34597													

REFERENCE CITY CODE	SNIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DEPTH INDEPTH	MARSDEN SQUARE		STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLES	WAVE OBSERVATIONS			WEA- TER CODE	CLOUD CODES	TYPE	AMT	NODC STATION NUMBER
					10°	1°	MO	DAY		CRUISE NO.	STATION NUMBER			DIR	HGT	PER	SEA				
31B037	GL	75533S	057239W	557	57	02	10	030	1968	006		0360	03	00	0	X	X1	7	6		0009

MESSENGER TIME NR	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S %	SIGMA-T	SPECIFIC VOLUME ANOMALY- $\times 10^7$	$\pm \Delta$ DYN. M. $\times 10^3$	sound velocity	O2 ml/l	PO4-P ug -at/l	NH3-N ug -at/l	NO2-N ug -at/l	NO3-N ug -at/l	SiO4-Si ug -at/l	pH	SCC
		STD	0000	-0174	3383	2725	0008296	0000	14396	957							
037	OBS	0000	-0174	3383	2725				14396	957	111				108	053	837
	STD	0010	-0175	3383	2725	0008295	0008	14397	993								
037	OBS	0010	-0175	3383	2725				14397	993	111				107	053	839
	STD	0020	-0170	3384	2725	0008238	0017	14401	986								
037	OBS	0025	-0168	3387	2728				14403	982	123				115	053	839
	STD	0030	-0168	3401	2739	0006931	0024	14406	923								
	STD	0050	-0170	3437	2768	0004182	0035	14413	766								
037	OBS	0050	-0170	3436	2768			14413	766	215					265	068	813
037	OBS	0074	-0181	3442	2773			14413	747	227					285	070	811
	STD	0075	-0181	3443	2774	0003648	0045	14413	745								
037	OBS	0099	-0184	3446	2777			14416	714	215					290	071	811
	STD	0100	-0184	3447	2777	0003318	0054	14416	714								
	STD	0125	-0188	3449	2779	0003139	0062	14419	715								
037	OBS	0149	-0190	3451	2781			14422	715	236					291	071	809
	STD	0150	-0190	3451	2781	0002943	0069	14423	715								
037	OBS	0198	-0191	3455	2784			14431	724	224					295	067	811
	STD	0200	-0192	3456	2784	0002547	0083	14431	724								
	STD	0250	-0209	3458	2786	0002315	0095	14431	713								
037	OBS	T0295	-0214	3461	2789			14437	703	230					306	069	810
	STD	0300	-0214	3462	2790	0001963	0106	14438	704								
037	OBS	T0319	-0213	3463	2791			14442	712	231					301	071	808

REFERENCE CIRY CODE	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DEPTH INCHES	MARDEN SQUARE	STATION TIME (GMT)	YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAR. DEPTH OF SAMPL'S	WAVE OBSERVATIONS			WEA- TER CODE	CLOUD CODES	NODC STATION NUMBER
								CRUISE NO.	STATION NUMBER			DIA.	HGT	PER	SEA		
318037	G1	754455	057479W	557	57	02 10 060	1968	007	0433	04	00	0	X		X1	03	0010

MESSAGE TIME OR HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY— $\times 10^7$	$\Sigma \Delta D$ dyn. m. $\times 10^3$	SOUND VELOCITY	Ω_2 ml/l	PO ₄ -P µg - at/l	NH ₃ -N µg - at/l	NO ₂ -N µg - at/l	NO ₃ -N µg - at/l	SiO ₄ -Si µg - at/l	pH
061	STO	0000	-0172	3386	2727		0008070	0000	14397							
	OBS	0000	-0172	33863	2727						14397					
	STO	0010	-0172	3387	2728		0008025	0008	14399							
	OBS	0010	-0172	33868	2728						14399					
002	OBS	0016	-0146	34138	2749						14416					
	STD	0020	-0161	3428	2761		0004898	0015	14411							
	OBS	0020	-0161	34278	2761						14411					
	STD	0030	-0168	3438	2769		0004068	0019	14411							
	OBS	0030	-0168	34383	2769						14411					
	STD	0050	-0178	3443	2774		0003647	0027	14411							
	OBS	0050	-0178	34433	2774						14411					
	STD	0075	-0183	3449	2779		0003159	0035	14413							
	OBS	0075	-0183	34493	2779						14413					
	STD	0100	-0184	3450	2780		0003065	0043	14417							
025	OBS	0100	-0184	34503	2780						14417					
	STD	0125	-0188	3453	2782		0002848	0050	14420							
	OBS	0125	-0188	34528	2782						14420					
	STD	0150	-0188	3454	2783		0002756	0057	14424							
	OBS	0150	-0188	34538	2783						14424					
	STD	0200	-0192	3455	2783		0002639	0071	14430							
	OBS	0200	-0192	34548	2783						14430					
	STD	0250	-0194	3456	2785		0002488	0084	14438							
	OBS	0250	-0194	34563	2785						14438					
	STD	0300	-0200	3458	2786		0002286	0096	14444							
0388	OBS	0300	-0200	34583	2786						14444					
	OBS	0388	-0198	34613	2789						14460					

REFERENCE CTRY CODE	SHIP ID. CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DEPTH INCHES	MARDSSEN SQUARE		STATION TIME (GMT)	YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMP'L'S	WAVE OBSERVATIONS		WEA- THER CODE	CLOUD CODES	NODE STATION NUMBER
					10°	1°	MO	DA	HR.	1/10	CRUISE NO.	STATION NUMBER	OR.	HGT	PER SEA		
31037	GL	754455	057479W	557 57 02 10 060	1968	007	0400	04	00	0	X	X1	6	7		0011	

MESSENGER TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- σ_{10}^*	\bar{x} Δ D DYN. M. $\times 10^3$	SOULD VELOCITY	O ₂ mL/l	P O ₂ -P μg - ml/l	NH ₃ -N μg - ml/l	NO ₂ -N μg - ml/l	NO ₃ -N μg - ml/l	SI O ₂ -Si μg - ml/l	pH	SCC
		STD	0000	-0166	3394	2733	0007531	0000	14401	976							
073		OBS	0000	-0166	33935	2733			14401	976	104	258	016	088	054	841	
		STD	0010	-0165	3394	2733	0007520	0008	14403	980							
073		OBS	0010	-0165	33936	2733			14403	980	109	374	015	081	051	843	
		STD	0020	-0165	3394	2733	0007506	0015	14405	977							
073		OBS	0026	-0165	33937	2733			14406	975	117	247	012	074	051	843	
		STD	0030	-0164	3400	2738	0007019	0022	14408	946							
073		OBS	0050	-0156	3426	2759	0005034	0034	14419	834							
		STD	0052	-0155	34280	2761			14420	825	189	382	011	223	070	823	
073		OBS	0075	-0166	3438	2769	0004071	0046	14420	766							
		STD	0078	-0167	34389	2770			14420	760	211	412	008	258	069	820	
073		OBS	0100	-0178	3448	2778	0003258	0055	14419	728							
		STD	0104	-0179	34489	2778			14420	723	220	240	012	292	073	811	
073		OBS	0125	-0182	3452	2781	0002926	0063	14422	706							
		STD	0150	-0184	3455	2783	0002676	0070	14426	694							
073		OBS	0156	-0185	34560	2784			14427	692	227	274	010	324	077	810	
		STD	0200	-0189	3458	2786	0002402	0082	14432	698							
073		OBS	0207	-0190	34586	2787			14433	699	222	182	010	300	075	810	
		STD	0250	-0193	3460	2788	0002207	0094	14439	699							
073		OBS	0300	-0197	3462	2789	0002043	0104	14446	699							
		STD	0310	-0198	34619	2789			14447	699	225	145	006	306	073	809	
073		OBS	0354	-0197	34625	2790			14455	701	219	352	010	303	078	807	
073		OBS	0394	-0199	34636	2791			14461	695	234	367	025	330	074	806	

REFERENCE CTRY CODE	SHIP ID. CODE	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DEPTH INCHES	MARDEN SQUARE	STATION TIME (GMT)	YEAR	ORIGINATOR'S		DEPTH TO ROTOM	MAX. DEPTH OF SAMPLES	WAVE OBSERVATIONS		WEA- TER CODE	CLOUD CODES	NODE STATION NUMBER
									CRUISE NO.	STATION NUMBER			OIL	HGT PER SEA			
31B037	GL	73310S	060034W	558	30 02 11 090	1968	009	0603	05	00 10 X	x1	0 3				0012	

MESSAGE TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	WATER		WIND		BARO- METER (mba)		AIR TEMP. °C		VS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
				COLOR CODE	TRANS. UNI	DIR.	SPEED OR FORCE	DRY BULB	WET BULB	DRY BULB	WET BULB			
				DT	SD	19	S29	074	-085	-088	7	14		
089		STD	0000	-0193	3400	2739		0006986	0000	14389				
		OBS	0000	-0193	33998	2739				14389				
		STD	0010	-0190	3425	2759		0005026	0006	14396				
		OBS	0010	-0190	34253	2759				14396				
		STD	0020	-0191	3429	2762		0004748	0011	14397				
		OBS	0020	-0191	34288	2762				14397				
		STD	0030	-0191	3433	2766		0004434	0015	14400				
		OBS	0030	-0191	34328	2766				14400				
		STD	0050	-0190	3437	2769		0004078	0024	14404				
		OBS	0050	-0190	34373	2769				14404				
		STD	0075	-0190	3441	2772		0003756	0034	14409				
		OBS	0075	-0190	34413	2772				14409				
		STD	0100	-0190	3444	2775		000351	0043	14413				
		OBS	0100	-0190	34443	2775				14413				
		STD	0125	-0190	3446	2777		000334*	0051	14418				
		OBS	0125	-0190	34463	2777				14418				
		STD	0150	-0190	3450	2780		0003019	0059	14422				
		OBS	0150	-0190	34503	2780				14422				
		STD	0200	-0190	3455	2784		0002606	0073	14431				
		OBS	0200	-0190	34553	2784				14431				
		STD	0250	-0192	3467	2793		0001691	0084	14440				
		OBS	0250	-0192	34668	2793				14440				
		STD	0300	-0193	3472	2798		0001238	0092	14449				
		OBS	0300	-0193	34723	2798				14449				
		STD	0400	-0193	3479	2803		0000685	0101	14467				
		OBS	0400	-0193	34788	2803				14467				
		OBS	0456	-0192	34803	2804				14477				

REFERENCE CTRY CODE	SNIP IO. NO.	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRAFT INCH	MARSDEN SQUARE	STATION TIME (GMT)	YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD COOES TYPE AMT	NOOC STATION NUMBER
								CRUISE NO.	STATION NUMBER			DIR.	HGT	PER	SEA		
31B037	GL	74229S	059534W	557	49 02 11 180	1968	010	0604	05 00	0 X	X1	0	3			0013	

MESSENG ER TIME HR 1/10	CAST NO.	CARO TYPE	DEPTH (m)	T °C	S %	SIGMA-T	SPECIFIC VOLUME ANOMALY-X10 ³	Σ Δ O OYN. M. X 10 ³	SOUND VELOCITY	PO ₄ -P µg - ol/l			NH ₃ -N µg - ol/l			NO ₂ -N µg - ol/l			NO ₃ -N µg - ol/l			SiO ₄ -Si µg - ol/l			pH	S/C	
										COLOR CODE	TRANS. (m)	DIR.	SPEED OF FORCE	BARO- METER (mba)	AIR TEMP. °C	ORY BULB	WET BULB	VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS							
185		STD	0000	-0191	3450	2779	0003147	0000	14397																		
		OBS	0000	-0191	34498	2779			14397																		
		STD	0010	-0191	3450	2779	0003141	0003	14399																		
		OBS	0010	-0191	34498	2779			14399																		
		STD	0020	-0191	3451	2780	0003066	0006	14400																		
		OBS	0020	-0191	34507	2780			14400																		
		OBS	0025	-0191	34509	2780			14401																		
		STD	0030	-0191	3451	2780	0003044	0009	14402																		
		OBS	0030	-0191	34509	2780			14402																		
		OBS	0040	-0191	34511	2780			14404																		
		STD	0050	-0190	3452	2781	0002981	0015	14406																		
		OBS	0050	-0190	34516	2781			14406																		
		STD	0075	-0188	3461	2788	0002265	0022	14412																		
		OBS	0075	-0188	34608	2788			14412																		
		STD	0100	-0190	3468	2794	0001700	0027	14417																		
		OBS	0100	-0190	34679	2794			14417																		
		STD	0125	-0191	3471	2797	0001453	0031	14421																		
		OBS	0125	-0191	34709	2797			14421																		
		STD	0150	-0191	3473	2798	0001278	0034	14425																		
		OBS	0150	-0191	34730	2798			14425																		
		STD	0200	-0191	3477	2801	0000958	0040	14434																		
		OBS	0200	-0191	34768	2801			14434																		
		STD	0250	-0191	3479	2803	0000769	0044	14443																		
		OBS	0250	-0191	34789	2803			14443																		
		STD	0300	-0191	3480	2804	0000657	0048	14451																		
		OBS	0300	-0191	34800	2804			14451																		
		STD	0400	-0191	3483	2806	0000395	0053	14468																		
		OBS	0400	-0191	34827	2806			14468																		
		OBS	0480	-0191	34838	2807			14482																		
		STD	0500	-0191	3484	2807	0000256	0056	14485																		
		OBS	0500	-0191	34838	2807			14485																		
		OBS	0542	-0191	34838	2807			14492																		

REFERENCE CTRY CODE	SHIP COOE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRAFT INCH	MARSDEN SQUARE	STATION TIME (GMT)	YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPL'S	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD COOES TYPE AMT	NOOC STATION NUMBER	
								CRUISE NO.	STATION NUMBER			DIR.	HGT	PER	SEA			
31B037	GL	74229S	059534W	557	49 02 11 180	1968	010	0604	06 00	0 X	X1	6	7			0014		
MESSENG ER TIME HR 1/10	CAST NO.	CARO TYPE	DEPTH (m)	T °C	S %	SIGMA-T	SPECIFIC VOLUME ANOMALY-X10 ³	Σ Δ O OYN. M. X 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P µg - ol/l	NH ₃ -N µg - ol/l	NO ₂ -N µg - ol/l	NO ₃ -N µg - ol/l	SiO ₄ -Si µg - ol/l	pH	S/C	
176		STD	0000	-0186	3458	2786	0002498	0000	14401	789								
		OBS	0000	-0186	34584	2786			14401	789	202	388	027	249	068	630		
		STD	0010	-0188	3458	2786	0002503	0003	14401	791								
176		OBS	0010	-0188	34582	2786			14401	791	200	068	048	270	067	823		
		STD	0020	-0189	3458	2786	0002503	0005	14403	792								
176		OBS	0026	-0189	34580	2786			14403	792	211	321	005	308	068	826		
		STD	0030	-0189	3458	2786	0002504	0008	14404	796								
		STD	0050	-0189	3458	2786	0002484	0012	14407	813								
176		OBS	0052	-0189	34581	2786			14408	815	199	112	005	255	068	825		
		STD	0075	-0188	3458	2786	0002464	0019	14412	795								
176		OBS	0077	-0188	34582	2786			14412	792	201	266	007	261	068	823		
		STD	0100	-0191	3470	2796	0001537	0024	14417	728								
176		OBS	0103	-0191	34706	2796			14417	722	224	437	008	310	071	821		
		STD	0125	-0191	3473	2798	0001292	0027	14421	714								
		STD	0150	-0191	3475	2800	0001124	0030	14425	707								
176		OBS	0156	-0191	34756	2800			14427	706	233	140	005	308	071	818		
		STD	0200	-0191	3478	2802	0000897	0035	14434	700								
		STD	0250	-0191	3480	2804	0000684	0039	14443	700								
176		OBS	0206	-0191	34779	2802			14435	699	229	003	316	072	809			
		STD	0250	-0192	3482	2806	0000501	0042	14451	701								
176		OBS	0307	-0192	34822	2806			14452	701	226	138	002	304	072	815		
		STD	0400	-0190	3481	2805	0000527	0047	14468	706								
176		OBS	0411	-0190	3486P	2809P			14485	710	235	002	300	073	811			
		STD	0500	-0189	3480	2804	0000583	0053	14485	710								
176		OBS	0514	-0189	34794	2803			14488	710	224	279	032	330	072	809		
176		OBS	0540	-0189	34817	2805			14492	708	219	212	008	278	071			

REFERENCE CITY CODE	SNIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRAFT INCHES	MARDEN SQUARE	STATION TIME IGMT)	YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLES	WAVE OBSERVATIONS			WEA- TER CODE	CLOUD CODES TYPE AMT	NODC STATION NUMBER
								CRUISE NO.	STATION NUMBER			DRL	MGT	PER	SEA		
318037	GL	74010S	054455W	557 44 02	12 120	1968	011			0459	04	00	0	X	X1	6 7	0015

WATER		WIND		BARO- METER		AIR TEMP. °C		VIS. CODE		NO. OBS. DEPTHS		SPECIAL OBSERVATIONS		
COLOR CODE	TRANS. UNI	DIR.	SPEED OR FORCE	MBAL	DRY RULB	WET RULB								
		00	500	022	-040	-043	7	11						

MESSENG TIME OF NO.	CAST NR 1/10	CARD TYPE	DEPTH (m)	T °C	S %	SIGMA-T	SPECIFIC VOLUME ANOMALY-x10 ³	Σ Δ D DYN. M. X 10 ³	SOUND VELOCITY	D ₂ m/l	PO ₄ -P μg - ol/l	NH ₃ -N μg - ol/l	NO ₂ -N μg - ol/l	ND ₃ -H μg - ol/l	SD ₄ -Si μg - ol/l	pH	S/C	
129	STD	0000	-0178	3428	2761	0004860	0000	14400	722	222						287	070	811
129	OBS	0000	-0178	34279	2761			14400	722	734								
129	STD	0010	-0178	3427	2761	0004900	0005	14402	734	228	312	011	284	070	804			
129	OBS	0010	-0178	34273	2761			14402	734	175	005	312	072	807				
129	STD	0020	-0168	3443	2773	0003713	0009	14410	733	242								
129	OBS	0026	-0163	34500	2779			14415	732	175	005	312	072	807				
129	STD	0030	-0161	3451	2780	0003114	0013	14417	714	243	140	005	323	080	807			
129	OBS	0052	-0148	3457	2784	000268	0018	14427	657	14427	654	243						
129	STD	0075	-0173	3461	2788	0002289	0025	14420	666	245	242	359	072	807				
129	OBS	0078	-0175	34616	2789			14419	669	246	556	005	313	078	804			
129	STD	0100	-0182	3465	2792	0001944	0030	14420	704	237	391	009	309	070	808			
129	OBS	0104	-0183	34651	2792	0001844	0035	14423	699	14423	693							
129	STD	0125	-0185	3466	2792	0001821	0039	14425	693	14425	693							
129	OBS	0156	-0189	34666	2793			14426	692	245	242							
129	STD	0200	-0188	3467	2793	0001716	0048	14434	695	243	102	017	321	071	802			
129	OBS	0208	-0188	34675	2794	0001618	0056	14435	695	14442	694							
129	STD	0250	-0188	3468	2794	0001557	0064	14450	693	14468	717	236	000	288	070	811		
129	OBS	0416	-0195	34770	2802			14466	713	14471	709	235	195	009	280	065	807	
129	OBS	T0432	-0194	34786	2803			14471	709	14471	709	235	195	009	280	065	807	

REFERENCE CITY CODE	SNIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRAFT INCHES	MARDEN SQUARE	STATION TIME IGMT)	YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLES	WAVE OBSERVATIONS			WEA- TER CODE	CLOUD CODES TYPE AMT	NODC STATION NUMBER
								CRUISE NO.	STATION NUMBER			DRL	MGT	PER	SEA		
318037	GL	74010S	054455W	557 44 02	12 150	1968	011			0459	04	00	0	X	X1	0 3	0016

WATER		WIND		BARO- METER		AIR TEMP. °C		VIS. CODE		NO. OBS. DEPTHS		SPECIAL OBSERVATIONS		
COLOR CODE	TRANS. UNI	DIR.	SPEED OR FORCE	MBAL	DRY RULB	WET RULB								
		DT	SO 09	509	019	-003	-038	7	16					

MESSENG TIME OF NO.	CAST NR 1/10	CARD TYPE	DEPTH (m)	T °C	S %	SIGMA-T	SPECIFIC VOLUME ANOMALY-x10 ³	Σ Δ D DYN. M. X 10 ³	SOUND VELOCITY	O ₂ m/l	PO ₄ -P μg - ol/l	NH ₃ -N μg - ol/l	NO ₂ -N μg - ol/l	ND ₃ -H μg - ol/l	SD ₄ -Si μg - ol/l	pH	S/C	
147	STD	0000	-0182	3425	2759	0005050	0000	14398										
147	OBS	0000	-0182	34253	2759			14401										
147	STD	0010	-0182	3435	2767	0004284	0005	14401										
147	OBS	0010	-0182	34352	2767			14401										
147	STD	0020	-0151	3449	2777	0003338	0008	14419										
147	OBS	0020	-0151	34485	2777			14419										
147	STD	0030	-0140	3455	2782	0002906	0012	14427										
147	OBS	0030	-0140	34545	2782			14427										
147	STD	0050	-0169	3459	2786	0002459	0017	14417										
147	OBS	0050	-0169	34591	2786			14417										
147	STD	0075	-0183	3462	2789	0002201	0023	14415										
147	OBS	0075	-0183	34618	2789			14415										
147	STD	0100	-0188	3463	2790	0002058	0028	14417										
147	OBS	0100	-0188	34633	2790			14417										
147	STD	0125	-0189	3464	2791	0002002	0033	14421										
147	OBS	0125	-0189	34638	2791			14421										
147	STD	0150	-0189	3465	2792	0001911	0038	14425										
147	OBS	0150	-0189	34648	2792			14425										
147	STD	0200	-0189	3465	2792	0001844	0047	14433										
147	OBS	0200	-0189	34653	2792			14433										
147	STD	0250	-0189	3466	2792	0001776	0057	14442										
147	OBS	0250	-0189	34658	2792			14442										
147	STD	0300	-0190	34668	2793			14450										
147	OBS	0300	-0190	34683	2794			14454										
147	OBS	0328	-0191	34683	2795			14452										
147	OBS	0332	-0198	34688	2795			14465										
147	STD	0400	-0195	3477	2802	0000793	0077	14465										
147	OBS	0400	-0195	34773	2802			14465										
147	OBS	0418	-0195	34773	2802			14468										

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DEPTH DRAFT MARSSEN SQUARE	STATION TIME (GMT)	YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLES	WAVE OBSERVATIONS		WEA- TER CODE	CLOUD CODES	TYPE AMT	NODE STATION NUMBER
CTRY CODE	ID. NO.							CRUISE NO.	STATION NUMBER			DIRE.	HGT PER SEA				
31B037	GL	73230S	052180W	557	32 02 13 030	1968	012	0421	04 00 00 X	X1	0 13						0017

WATER		WIND		AIR TEMP. °C		NO. OBS. DEPTHS		SPECIAL OBSERVATIONS	
COLOR CODE	TRANS. IN	DIR.	SPD OR FORCE	BARO- METER INHAI	DRY BULB	WET BULB	WT CODE	DEPTHS	
DT	SD	00	S00	998	-052	-055	7	19	

MESSENG TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH m	T °C	S %	SIGMA-T	SPECIFIC VOLUME ANOMALY-10³	Σ Δ O DYN. M. X 10³	DEPTH TO BOTTOM	SOUND VELOCITY	O₂ mL/l	PO₄-P µg - ol/l	NH₃-N µg - ol/l	NO₂-N µg - ol/l	NO₃-N µg - ol/l	SiO₄-Si µg - ol/l	pH	SCC
		STD	0000	-0183	3425	2759	0005087	0000	14397									
021	OBS	0000	-0183	34248	2759				14397									
	STD	0010	-0178	3430	2763		0004708	0005	14402									
	OBS	0010	-0178	34298	2763				14402									
002	OBS	0016	-0170	34363	2768				14408									
	STD	0020	-0172	3438	2770		0004064	0009	14408									
	OBS	0020	-0172	34383	2770				14408									
	STD	0030	-0172	3442	2773		0003751	0013	14410									
	OBS	0030	-0172	34423	2773				14410									
	STD	0050	-0175	3447	2777		0003348	0020	14413									
	OBS	0050	-0175	34473	2777				14413									
	OBS	0056	-0171	34485	2778				14416									
	OBS	0064	-0173	34496	2779				14416									
	STD	0075	-0162	3451	2779		0003102	0028	14423									
	OBS	0075	-0162	34508	2779				14423									
	OBS	0096	-0147	34530	2781				14434									
	STD	0100	-0159	3454	2782		0002875	0036	14429									
	OBS	0100	-0159	34537	2782				14429									
	STD	0125	-0140	3455	2782		0002824	0043	14443									
	OBS	0125	-0140	34550	2782				14443									
	OBS	0137	-0133	34558	2783				14448									
	STD	0150	-0159	3457	2784		0002597	0050	14438									
	OBS	0150	-0159	34570	2784				14438									
	OBS	0163	-0157	34576	2785				14441									
	STD	0200	-0183	3463	2790		0002053	0061	14436									
	OBS	0200	-0183	34628	2790				14436									
	STD	0250	-0187	3467	2793		0001714	0071	14443									
	OBS	0250	-0187	34667	2793				14443									
	STD	0300	-0188	3468	2794		0001575	0079	14451									
	OBS	0300	-0188	34681	2794				14451									
	STD	0400	-0191	3473	2798		0001157	0093	14467									
	OBS	0400	-0191	34727	2798				14467									

REFERENCE	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DEPTH DRAFT MARSSEN SQUARE	STATION TIME (GMT)	YEAR	ORIGINATOR'S	DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLES	WAVE OBSERVATIONS	WEA- TER CODE	CLOUD CODES	NOOC STATION NUMBER					
CTRY CODE	ID. NO.	CRUISE NO.	STATION NUMBER	DIRE.	HGT PER SEA													
31B037	GL	752675	026326W	554	56 02 15 150	1968	013	0507	05 00 00 X	X1	0 3		0018					
MESSENG TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH m	T °C	S %	SIGMA-T	SPECIFIC VOLUME ANOMALY-10³	Σ Δ O DYN. M. X 10³	DEPTH TO BOTTOM	SOUND VELOCITY	O₂ mL/l	PO₄-P µg - ol/l	NH₃-N µg - ol/l	NO₂-N µg - ol/l	NO₃-N µg - ol/l	SiO₄-Si µg - ol/l	pH	SCC
		STD	0000	-0099	3375	2716	0009158	0000	14430									
141	OBS	0000	-0099	33748	2716				14430									
	STD	0010	-0086	3378	2718		0008930	0009	14438									
	OBS	0010	-0086	33783	2718				14438									
	STD	0020	-0061	3383	2721		0008675	0018	14452									
	OBS	0020	-0061	33828	2721				14452									
	OBS	0025	-0050	33943	2730				14459									
	STD	0030	-0056	3401	2735		0007315	0026	14458									
	OBS	0030	-0056	34008	2735				14458									
	OBS	0032	-0061	34040	2738				14457									
	OBS	0040	-0062	34083	2742				14458									
	OBS	0048	-0060	34114	2744				14461									
	STD	0050	-0071	3412	2745		0006362	0040	14456									
	OBS	0050	-0071	34124	2745				14456									
	STD	0075	-0186	3426	2760		0004955	0054	14408									
	STD	0075	-0186	34258	2760				14408									
	STD	0100	-0188	3429	2763		0004665	0066	14412									
	OBS	0100	-0188	34293	2763				14412									
	STD	0125	-0188	3430	2763		0004573	0077	14416									
	OBS	0125	-0188	34303	2763				14416									
	STD	0150	-0189	3433	2766		0004355	0088	14420									
	OBS	0150	-0189	34329	2766				14420									
	STD	0200	-0189	3436	2768		0004094	0110	14429									
	OBS	0200	-0189	34359	2768				14429									
	STD	0250	-0189	3437	2769		0003955	0130	14438									
	OBS	0250	-0189	34373	2769				14438									
	STD	0300	-0190	3439	2770		0003814	0149	14446									
	OBS	0300	-0190	34387	2770				14446									
	STD	0400	-0192	3441	2773		0003547	0186	14462									
	OBS	0400	-0192	34413	2773				14462									
	OBS	0480	-0190	34418	2773				14476									

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DEPTH IN METERS	MARSDEN SQUARE		STATION TIME (GMT)		YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX DEPTH OF SAMPL'S	WAVE OBSERVATIONS			WEATHER CODE	CLOUD CODES	TYPE A.MT	NODE STATION NUMBER
CTRY CODE	ID. NO.					°	'	MO	DAY		CRUISE NO.	STATION NUMBER			GR.	HGT	PER	SEA			
31	B037	GL	752675	026326W	554	56	02	15	180	1968	013		0507	05	00	0	X	X1	6	7	0019

MESSENGR TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S %	SIGMA-T	SPECIFIC VOLUME ANOMALY- $\times 10^6$	$\Sigma \Delta \sigma$ OYN. M. $\times 10^3$	SOUNO VELOCITI	O ₂ mL/l	P _{O₂} -P μg - σt/l	NH ₃ -N μg - σt/l	NO ₂ -N μg - σt/l	NO ₃ -N μg - σt/l	SiO ₄ -Si μg - σt/l	pH	SCC
		STD	0000	-0084	3381	2720	0008757	0000	14438	847							
186	OBS	0000	-0084	33807	2720				14438	847	131	521	012	149	065	833	
	STD	0010	-0085	3380	2720		0008788	0009	14439	838							
186	OBS	0010	-0085	33802	2720				14439	838	141	205	006	149	064	835	
	STD	0020	-0070	3383	2721		0008625	0017	14448	855							
186	OBS	0025	-0064	33855	2723				14452	861	158	128	006	150	064	827	
	STD	0030	-0061	3388	2725		0008274	0026	14454	860							
	STD	0050	-0049	3399	2734		0007477	0042	14465	855							
186	OBS	0051	-0048	33997	2734				14465	855	137	224	008	148	065	834	
	STD	0075	-0048	3416	2747		0006175	0059	14472	865							
186	OBS	0076	-0049	34161	2747				14471	865	155	239	005	154	063	835	
	STD	0100	-0122	3425	2757		000519	0073	14443	819							
186	OBS	0101	-0124	34252	2758				14442	817	175		007	223	069	823	
	STD	0125	-0164	3428	2761		0004838	0085	14427	783							
	STD	0150	-0190	3430	2763		0004559	0097	14420	758							
186	LIT	0152	-0191							757	236	574	005	293	070	Q	
	STD	0200	-0189	3435	2768		0004132	0119	14429	745							
186	OBS	0203	-0189	34357	2768				14430	744	215	093	009	298	072	818	
	STD	0250	-0188	3432	2764		0004401	0140	14437	744							
186	OBS	0253	-0188	34312	2764				14438	744	221	225	009	305	073	813	
	STD	0300	-0187	3439	2771		0003800	0161	14447	727							
186	OBS	0304	-0187	34396	2771				14448	726	210	026	025	317	072	814	
	STD	0400	-0194	3441	2772		0003565	0198	14461	734							
186	OBS	T0408	-0194	34413	2773				14462	735	220	255	005	309	071	813	
186	OBS	0457	-0194	34423	2773				14471	733	228	136	015	287	069	810	
186	OBS	T0478	-0194	34437	2775				14474	733	226	306	010	302	070	811	
186	OBS	T0499	-0193	34427	2774				14478	736	234	234	005	312	066	811	

REFERENCE CITY CODE	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRAFT INCHES	MARSOEN SQUARE		STATION TIME G(MT)	YEAR	ORIGINATOR'S CRUISE NO.		DEPTH TO BOTTOM OF SNAPL'S	MAX. DEPTH OF SNAPL'S	WAVE OBSERVATIONS			WEA- TER CODE	CLOUD CODES	TYPE AMT	NODE STATION NUMBER
					10°	1°			MO	DAY			DBL	HGT	PER	SEA			
31B037	GL	761425	033489W	555	63	02	16	150	1968	014	0768	02	00	0	X	X7	0 3	0020	

MESSENGER TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-10 ⁻³	$\Sigma \Delta D$ DYN. M. $\times 10^3$	SOUDIO VELOCITY	O ₂ ml/l	PO ₄ -P ug -ol/l	NH ₃ ug -ol/l	NO ₂ -N ug -ol/l	NO ₃ -N ug -ol/l	SiO ₄ -Si ug -ol/l	pH	SCC
159		STD	0000	-0019	3412	2743	0006603	0000	14472								
		OBS	0000	-0019	34123	2743			14472								
		STD	0010	-0022	3412	2743	0006587	0007	14472								
		OBS	0010	-0022	34123	2743			14472								
		STD	0020	-0030	3414	2745	0006435	0013	14471								
		OBS	0020	-0030	34138	2745			14471								
		STD	0030	-0097	3420	2752	0005713	0019	14442								
		OBS	0030	-0097	34197	2752			14442								
		OBS	0035	-0104	34223	2755			14440								
		OBS	0040	-0113	34241	2756			14437								
		STD	0050	-0134	3427	2759	0005053	0030	14429								
		OBS	0050	-0134	34266	2759			14429								
		OBS	0054	-0141	34288	2761			14427								
		STD	0075	-0162	3433	2765	0004443	0042	14421								
		OBS	0075	-0162	34333	2765			14421								
		STD	0100	-0172	3437	2769	0004094	0052	14421								
		OBS	0100	-0172	34373	2769			14421								
		STD	0125	-0175	3438	2770	0003995	0063	14424								
		OBS	0125	-0175	34383	2770			14424								
		STD	0150	-0179	3440	2771	0003854	0072	14426								
		OBS	0150	-0179	34398	2771			14426								
		OBS	0194	-0179	34418	2773			14434								

REFERENCE CITY CODE	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DATE HRS INCL	MARDEN SQUARE	STATION TIME IGMTI	YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SYNPL'S	WAVE OBSERVATIONS			WEA- TER CODE	CLOUD CODES	TYPE	AMT	NODC STATION NUMBER		
								CRUISE NO.	STATION NUMBER			AIR TEMP. °C									
												10°	1°	MO	DAY	HRS/1/10	DRY BULB	WET BULB	VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
318037	GL	761425	033489W	555 63	02 17 000	1968			015	0768	06										0021

MESSNGR TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S %	SIGMA-T	SPECIFIC VOLUME ANDMALY-210°	Σ Δ D DYN. M. X 10³	SOUND VELOCITY	O2 ml/l	PO4-P µg - ol/l	NH3-N µg - ol/l	NO2-N µg - ol/l	NO3-N µg - ol/l	Si O4-Si µg - ol/l	pH	SCC		
015	STD	0000	-0048	3399	2733	0007517	0000	14457											
015	OBS	0000	-0048	33987	2733			14457											
002	STD	0010	-0048	3399	2734	0007484	0008	14459											
002	OBS	0010	-0048	33991	2734			14459											
002	STD	0014	-0046	34038	2737			14461											
002	STD	0020	-0091	3417	2750	0005945	0014	14443											
002	OBS	0025	-0121	34253	2758			14431											
002	STD	0030	-0145	3433	2765	0004539	0019	14421											
002	OBS	0040	-0173	34418	2772			14411											
002	STD	0050	-0174	3443	2773	0003719	0028	14412											
002	OBS	0050	-0174	34425	2773			14412											
002	STD	0075	-0175	3443	2774	0003641	0037	14416											
002	OBS	0075	-0175	34433	2774			14416											
002	STD	0100	-0175	3444	2775	0003542	0046	14420											
002	OBS	0100	-0175	34444	2775			14420											
002	STD	0125	-0173	3446	2776	0003410	0055	14426											
002	STD	0150	-0172	3448	2777	0003284	0063	14431											
002	OBS	0150	-0172	34475	2777			14431											
002	STD	0200	-0172	3449	2778	0003134	0079	14439											
002	OBS	0200	-0172	34491	2778			14439											
002	STD	0250	-0174	3451	2780	0002954	0094	14447											
002	STD	0300	-0177	3454	2782	0002710	0108	14454											
002	OBS	0300	-0177	34537	2782			14454											
002	STD	0400	-0183	3458	2786	0002290	0133	14468											
002	OBS	0400	-0183	34582	2786			14468											
002	STD	0500	-0195	3464	2791	0001785	0154	14480											
002	OBS	0500	-0195	34635	2791			14480											
002	OBS	0560	-0203	34644	2792			14487											
002	OBS	0592	-0207	34652	2792			14490											

REFERENCE CITY CODE	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DATE HRS INCL	MARDEN SQUARE	STATION TIME IGMTI	YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SYNPL'S	WAVE OBSERVATIONS			WEA- TER CODE	CLOUD CODES	TYPE	AMT	NODC STATION NUMBER	
								CRUISE NO.	STATION NUMBER			AIR TEMP. °C								
												10°	1°	MO	DAY	HRS/1/10	DRY BULB	WET BULB	VIS. CODE	NO. OBS. DEPTHS
318037	GL	761425	033489W	555 64	02 17 030	1968			015	0768	05		00	0	X		X7	7 8		0022
028	STD	0000	-0056	3402	2736	0007210	0000	14454	869											
028	OBS	0000	-0056	34023	2736			14454	869	111	168	013	164	040	040	832				
028	OBS	0007	-0057	34024	2737			14454	861	134	216	003	145	041	041	831				
028	STD	0010	-0056	3407	2740	0006846	0007	14456	858											
028	OBS	0018	-0054	34186	2750			14460	841	147	170	008	144	044	044	829				
028	STD	0020	-0062	3420	2751	0005826	0013	14457	830											
028	STD	0030	-0098	3428	2759	0005074	0019	14443	784											
028	OBS	0037	-0121	34327	2764			14434	760	196	138	012	248	057	057	815				
028	STD	0050	-0162	3440	2771	0003943	0028	14418	739											
028	OBS	0056	-0174	34417	2772			14413	732	220	017	015	194	065	065	814				
028	OBS	0073	-0183	34430	2774	0003643	0037	14412	724	220	112	004	246	065	065	815				
028	STD	0075	-0183	3443	2774			14412	724											
028	STD	0100	-0183	3443	2774	0003612	0046	14416	718											
028	OBS	0108	-0183	34432	2774			14418	716	229	473	009	255	067	067	810				
028	STD	0125	-0181	3444	2774	0003541	0055	14422	726											
028	OBS	0141	-0179	34444	2775			14425	732	235	222	000	276	063	063	814				
028	STD	0150	-0179	3445	2775	0003487	0064	14427	729											
028	STD	0200	-0177	3446	2776	0003363	0081	14436	715											
028	OBS	0205	-0177	34460	2776			14437	713	212	130	003	260	065	065	810				
028	OBS	0225	-0193	34482	2778			14433	721	220	059	004	222	064	064	814				
028	STD	0250	-0191	3449	2779	0003054	0097	14438	720											
028	STD	0300	-0188	3451	2780	0002905	0112	14449	719											
028	OBS	0350	-0184	34524	2781			14459	718	216	094	000	236	064	064	812				
028	STD	0400	-0192	3457	2785	000235	0138	14464	717											
028	OBS	T0425	-0195	34583	2786			14467	716	219	065	000	229	063	063	812				
028	OBS	T0477	-0199	34606	2788			14474	715	221	183	004	260	063	063	811				
028	STD	0500	-0199	3462	2789	0001885	0160	14478	712											
028	OBS	T0518	-0199	34624	2790			14481	709	236	08	000	221	061	061	808				

REFERENCE CTRY CODE	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DATE INDEX	MARDEN SQUARE	STATION TIME (GMT)	YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLE'S	WAVE OBSERVATIONS			WEA- TER CODE	CLOUD CODES	NOOC TYPE	AMT	NOOC STATION NUMBER
								CRUISE NO.	STATION NUMBER			DIR.	HGT PER SEA						
318037	GL	74506S	039049W	555 49 02 17 180	1968	016	0384	04	00	0X	X2	6	8		0023				

MESSNGR TIME OF HR 1/10	CAST NO.	CARO TYPE	DEPTH (m)	T °C	S %	SIGMA-T	SPECIFIC VOLUME ANOMALY-X10 ³	Σ Δ Θ OYN. M. X 10 ³	SOUND VELOCITY	O2 m/l	AIR TEMP. °C			VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS	WEA- TER CODE	CLOUD CODES	NOOC TYPE	AMT	NOOC STATION NUMBER
											WATER	WINO	BARO- METER (mb)	DRY BULB	WET BULB						
											COLOR CODE	TRANS. UNI.	DIR.	SPEED OF FORCE							
											09	S10	795	-003	-015	7	11				

177	STD	0000	-0145	33766	2719	0008882	0000	14408	808	154	248	016	184	043	826
177	STD	0010	-0147	3376	2718	0008948	0009	14409	828	168	166	012	232	043	826
177	OBS	0010	-0147	33756	2718	0008857	0018	14411	828	176	070	012	163	043	824
177	OBS	0025	-0147	33772	2719	0007669	0026	14413	815						
177	STD	0030	-0150	3392	2731	0004483	0038	14417	769						
177	STD	0050	-0161	3433	2765			14417	767	230	156	010	216	058	816
177	OBS	0051	-0162	34338	2766			14415	728						
177	STD	0075	-0175	3440	2771	0003908	0049	14415	727	250	068	007	192	069	813
177	OBS	0076	-0176	34400	2771	0003803	0058	14417	721						
177	OBS	0100	-0181	3441	2772			14417	720	240	251	026	215	070	811
177	STD	0125	-0177	3442	2773	000372	0068	14423	718						
177	STD	0150	-0173	3443	2773	0003640	0077	14429	715						
177	OBS	T0152	-0173	34429	2773			14430	715	263	109	003	278	071	814
177	STD	0200	-0168	3445	2775	0003461	0095	14441	702						
177	OBS	0204	-0167	34452	2775			14442	701	249	155	TRC	271	073	813
177	STD	0250	-0162	3447	2777	0003269	0112	14452	697						
177	STD	0300	-0157	3450	2778	0003086	0127	14463	692						
177	OBS	0306	-0156	34500	2779			14464	691	238	059	TRC	220	074	815
177	OBS	T0334	-0146	34554	2783			14474	671	261	109	005	259	077	812
177	OBS	T0356	-0146	34564	2784			14478	674	251	095	004	218	077	812

REFERENCE CTRY CODE	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DATE INDEX	MARDEN SQUARE	STATION TIME (GMT)	YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLE'S	WAVE OBSERVATIONS			WEA- TER CODE	CLOUD CODES	NOOC TYPE	AMT	NOOC STATION NUMBER
								CRUISE NO.	STATION NUMBER			DIR.	HGT PER SEA						
318037	GL	74024S	040372W	556 40 02 18 030	1968	017	0695	06	00	0X	X7	7	8					0024	

045	STD	0000	-0150	33804	2722	0008577	0000	14407	844	131	025	187	026	820
045	OBS	0010	-0150	3380	2722	000857*	0009	14408	850	129	020	142	030	818
045	OBS	0010	-0150	33804	2722	0008045	0017	14408	850					
045	STD	0020	-0155	3387	2728	0007039	0024	14408	847	155	017	201	027	816
045	OBS	0024	-0156	33907	2731	0007039	0024	14411	829					
045	STD	0030	-0156	3400	2738	0007039	0024	14418	781	191	013	133	050	806
045	OBS	0049	-0156	34226	2756	0005261	0037	14418	779					
045	STD	0050	-0157	3423	2757	0004449	0049	14418	744	193	010	124	071	805
045	OBS	0073	-0167	34324	2765	0004449	0049	14418	743					
045	STD	0075	-0168	3433	2765	0004449	0049	14420	735	200	023	198		
045	OBS	0098	-0173	34367	2768	0004114	0060	14420	734					
045	STD	0100	-0173	3437	2769	0004114	0060	14424	723					
045	STD	0125	-0175	3439	2770	0003942	0070	14427	714	188	010	165	080	805
045	OBS	T0148	-0176	34400	2771	0003840	0079	14428	713					
045	STD	0150	-0176	3440	2771	0003840	0079	14438	699	204	007	072	805	
045	OBS	0197	-0170	34414	2772	0003723	0098	14439	699					
045	STD	0200	-0169	3442	2772	0003589	0117	14452	691					
045	OBS	0297	-0151	34449	2774	0003468	0134	14464	681	210	005	218	070	804
045	STD	0300	-0150	3445	2774	0003468	0134	14465	681					
045	OBS	0397	-0121	34501	2778	000311	0167	14496	651	210	003	078	803	
045	STD	0400	-0115	3451	2778	000311	0167	14499	645					
045	OBS	0496	-0015	34622	2783	0002736	0196	14563	540	217	005	216	089	797
045	STD	0500	-0022	3462	2783	0002736	0196	14561	544					
045	OBS	0572	-0070	34616	2785	0002736	0196	14550	576	211	006	253	095	801
045	OBS	T0597	-0050	34627	2785	0002736	0196	14564	572	223	004	083	800	

REFERENCE CITY CODE	SHIP CODE IO. NO.	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRAFT INCHES	MARDEN SQUARE	STATION TIME IGMT)	YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAR. DEPTH OF SAMPLE'S	WAVE OBSERVATIONS		WEA- THER CODE	CLOUD CODES TYPE AMT	X2	7	8	0026
								CRUISE NO.	STATION NUMBER			DIA.	HGT PER SEA						
318037	GL	724605	042455W	556	22 02 19 000	1968	018B	2044	08 00	0 IX	0	X2	7	8					

WATER COLOR CODE	TRANS. CM	OBL	SPEED OF FORCE	BARO- METER INHAB	AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
					DRY BULB	WET BULB			
20	S05	809	-008	-010	7	14			

MESSAGE TIME HR 1/10	CAST NO.	CARO TYPE	DEPTH (m)	T °C	S %	SIGMA-T	SPECIFIC VOLUME ANOMALY -210° CYN. M. X 10 ³	Σ Δ O CYN. M. X 10 ³	DEPTH TO BOTTOM	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - dl/l	NH ₃ -N μg - dl/l	NO ₂ -N μg - dl/l	NO ₃ -N μg - dl/l	S C ₄ -S μg - dl/l	pH	S
		STD	0000	-0155	3361	2707	0010039	0000	14402	806								
017	OBS	0000	-0155	33612	2707		0010012	0010	14402	824								
		STD	0010	-0157	3361	2707			14402	824								
017	OBS	0010	-0157	33614	2707				14421	824								
		STD	0020	-0131	3396	2734	0007422	0019			14426	824						
017	OBS	0024	-0126	34075	2743				14421	796								
		STD	0030	-0141	3419	2753	0005624	0025			14413	735						
017	OBS	0049	-0173	34424	2773				14413	735	229	147	016	259	070			
		STD	0050	-0173	3442	2773	0003729	0035			14413	734						
017	OBS	0073	-0176	34429	2773				14414	717	226	073	017	205	073			
		STD	0075	-0178	3443	2774	0003656	0044			14415	717						
017	OBS	0098	-0180	34432	2774				14418	720	223	113	013	214	073			
		STD	0100	-0180	3443	2774	000362	0053			14418	720						
017	OBS	0125	-0180	3444	2774		0003582	0062			14422	714						
		STD	0147	-0180	34438	2774					14426	709	235	124	009	284	072	
017	OBS	0150	-0180	3444	2774		0003530	0071			14426	708						
		STD	T0197	-0177	34444	2775					14436	699	218	069	016	275	074	
017	OBS	0200	-0177	3445	2775		0003471	0088			14436	699						
		STD	0250	-0173	3445	2775	0003386	0105			14446	699						
017	OBS	0297	-0169	34462	2776						14456	690	223	041	011	282	075	
		STD	0300	-0168	3446	2776	0003306	0122			14457	689						
017	OBS	0398	-0133	34494	2777						14490	645	225	116	020	299	078	
		STD	0400	-0132	3450	2778	0003112	0154			14491	644						
017	OBS	0500	-0061	3457	2781		0002921	0184			14542	579	233		015	299	089	
		STD	T0500	-0061	34566	2781					14542	579						
017	OBS	0600	0011	3463	2782		0002839	0213			14593	506						
		STD	0600	0011	34633	2782					14593	506	241	057	008	293	098	
017	OBS	0700	0041	3467	2783		0002812	0242			14624	492						
		STD	T0702	0042	34666	2783					14624	492	240	108	009	233	103	
017	OBS	0800	0046	3468	2784		0002776	0269			14642	486						
		STD	T0807	0046	34676	2784					14644	486	254	028	009	272	107	

REFERENCE CITY CODE	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DEPTH INCHES	MARSDEN SQUARE	STATION TIME MO DAY HR 1/10	YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPL'S	WAVE OBSERVATIONS		WEA- TER CODE	CLOUD CODES	NODE STATION NUMBER	
								CRUISE NO.	STATION NUMBER			DIRE.	HGT PER SEA				
318037	GL	715385	048201W	556	18 02 19 210	1968			019	2044	20	00 0 X	X 7	7 8		0027	
					WATER		WIND		BARO- METER (mb)		AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS		SPECIAL OBSERVATIONS	
					COLOR CODE	TRANS. (mi)	DIR.	SPEED OR FORCE	DRY BULB	WET BULB							
						21	S08	935	-011	-015	6	22					
MESSENGR TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S %	SIGMA-T	SPECIFIC VOLUME ANOMALY-X10 ³		Σ Δ D X 10 ³	D2 m/l	PO4-P ug - ol/l	NM _{3-N} ug - ol/l	NO _{2-N} ug - ol/l	NO _{3-N} ug - ol/l	SiO _{4-Si} ug - ol/l	PH	
205	STD	0000	-0160	3384	2725		0008291	0000	14402	810							
205	OBS	0000	-0160	33838	2725				14402	810	168				207	053 811	
205	STD	0010	-0163	3384	2725		0008300	0008	14403	815							
205	OBS	0010	-0163	33835	2725				14403	815	172				235	053 812	
205	STD	0020	-0164	3427	2760		0004952	0015	14410	775							
205	OBS	0026	-0166	34439	2774				14412	755	205				255	061 812	
	STD	0030	-0169	3444	2774		0003613	0019	14412	744							
	STD	0050	-0179	3446	2776		0003476	0026	14410	708							
205	OBS	0052	-0180	34456	2776				14410	706	220				213	074 805	
205	STD	0075	-0179	3446	2776		0003461	0035	14414	709							
205	OBS	0079	-0179	34455	2776				14415	709	225				279	074 804	
	STD	0100	-0177	3446	2776		0003438	0044	14420	707							
205	OBS	0104	-0176	34457	2776				14421	706	227				212	075 805	
	STD	0125	-0174	3447	2777		000333	0052	14425	693							
	STD	0150	-0173	3448	2777		0003245	0060	14430	679							
205	OBS	0157	-0172	34482	2778				14432	676	225				226	078 796	
	STD	0200	-0151	3449	2778		0003209	0076	14449	661							
205	OBS	T0210	-0146	34495	2778				14453	657	229				232	080 802	
	STD	0250	-0129	3452	2779		0003037	0092	14468	632							
	STD	0300	-0100	3455	2781		0002908	0107	14460	601							
205	OBS	0315	-0089	34558	2781				14498	591	244				219	087 801	
	STD	0400	-0002	3463	2783		0002788	0135	14553	533							
205	OBS	0420	0011	34641	2783				14563	522	246				197	098 795	
	STD	0500	0035	3467	2784		000272	0163	14587	488							
205	OBS	0526	0038	34673	2784				14593	483	243				245	103 796	
205	STD	0600	0032	3467	2784		0002703	0190	14603	489							
205	OBS	0632	0031	34669	2784				14607	490	246				231	103 796	
	STD	0700	0034	3468	2785		000268	0217	14620	488							
205	OBS	T0740	0035	34678	2785				14627	487	245				220	109 789	
	STD	0800	0032	3468	2785		0002667	0244	14636	489							
205	OBS	T0847	0030	34674	2785				14643	490	221				256	110 794	
170	OBS	T0863	0023	34679	2786				14643	490	220				266	109 797	
	STD	0900	0022	3468	2786		0002570	0270	14648	493							
	STD	1000	0018	3468	2786		0002554	0295	14663	500							
170	OBS	1060	0015	34676	2786				14672	504	215				274	111 800	
	STD	1100	0013	3468	2786		000253	0321	14678	506							
	STD	1200	0008	3467	2786		0002503	0346	14693	512							
	STD	1300	0003	3467	2786		0002475	0371	14707	518							
170	OBS	1308	0003	34671	2786				14708	518	214				286	112 800	
	STD	1400	-0000	3467	2786		0002442	0396	14723	520							
	STD	1500	-0006	3467	2786		0002385	0420	14737	525							
170	OBS	1556	-0010	34671	2787				14745	529	224				256	113 800	
	STD	1750	-0027	3466	2787		0002256	0478	14770	544							
170	OBS	1856	-0045	34656	2787				14780	571	215				251	107 799	
170	OBS	1931	-0062	34655	2788				14785	598	218				260	095 801	
170	OBS	T1984	-0072	34634	2787				14789	586	197				250	096 801	
	STD	2000	-0075	3465	2788		0001848	0529	14791	591							
170	OBS	T2003	-0076	34650	2788				14791	592	217				262	094 803	

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DEPTH METERS	MARSDEN SQUARE	STATION TIME IGMT	YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLES	WAVE OBSERVATIONS			WEA- TER CODE	CLOUD CODES	TYPE AMT	NOAA STATION NUMBER
CITY CODE	ID. NO.								CRUISE NO.	STATION NUMBER			DRY	WET	DRY HGT	WET HGT	PER SEA		
318037	GL	715655	S	051039	W	557	11 02 20 040	1968	020	1472	13	00	0	X	X	7	7 8	0028	

COLOR CODE	TRANS. UNI	WATER		WIND		AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
		DRY	WET	DRY	WET	DRY	WET			
		19	S05	945	-052	-054	6	16		

MESSNGR TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S %	SIGMA-T	SPECIFIC VOLUME ANOMALY -10°	Σ Δ D dyn. m. x 10³	DEPTH TO BOTTOM	SOUND VELOCITY	O₂ mL/L	P <small>D<small>₄₄-P</small></small> <small>μg - ol/l</small>	NN <small>γ - N</small> <small>μg - ol/l</small>	NO₂-N <small>μg - ol/l</small>	NO₃-N <small>μg - ol/l</small>	SO₄-S <small>μg - ol/l</small>	PH	SCC
		STD	0000	-0181	3395	2734	0007412	0000	14394	780								
044	OBS	0000	-0181	33946	2734		0007359	0007	14396	791								
	STD	0010	-0181	3395	2735				14396	792	163	080	016	206	062	810		
044	OBS	0011	-0181	33953	2735				14404	775								
	STD	0020	-0175	3425	2759		0005078	0014	14409	763	206		016	246	066	810		
044	OBS	0027	-0173	34408	2772				14409	757								
	STD	0030	-0174	3441	2772		0003846	0018	14409	757								
044	OBS	0050	-0178	3442	2773		0003747	0026	14410	726								
	STD	0054	-0179	34422	2773				14411	722	220	14	018	253	073	803		
044	OBS	0075	-0181	3442	2773		0003694	0035	14413	721								
	STD	0081	-0182	34425	2773				14414	720	222	05	013	224	073	805		
044	OBS	0100	-0184	3443	2773		0003649	0044	14416	722								
	STD	0107	-0184	34428	2774				14417	722	216	154	011	286	073	802		
044	OBS	0125	-0182	3443	2774		0003600	0053	14421	718								
	STD	0150	-0181	3444	2774		0003542	0062	14426	712								
044	OBS	0160	-0180	34440	2774				14428	710	219	065	007	280	072	804		
	STD	0200	-0179	3445	2775		0003464	0080	14435	703								
044	OBS	T0213	-0178	34447	2775				14438	701	219	082	009		073	800		
	STD	0250	-0177	3445	2775		0003403	0097	14444	701								
044	OBS	0300	-0173	3445	2775		0003388	0114	14455	695								
	STD	0317	-0170	34457	2776				14459	692	219	112	008	269	074			
044	OBS	0400	-0152	3449	2778		0003107	0146	14482	666								
	STD	0419	-0143	34496	2778				14489	656	224	095	007	234	078	800		
044	OBS	0500	-0086	3455	2780		0002911	0176	14530	596								
	STD	0521	-0070	34565	2781				14541	581	227	056	009	258	085	798		
044	OBS	0600	-0000	3461	2781		0002940	0206	14587	526								
	STD	0623	0014	34626	2782				14598	515	239	068	006	250	094	795		
044	OBS	0700	0017	3464	2783		0002831	0234	14612	510								
	STD	0800	0020	3466	2784		0002735	0262	14630	504								
044	OBS	0826	0021	34659	2784				14635	502	243		008	226	101	797		
	STD	0900	0001	3465	2784		0002631	0289	14638	520								
044	OBS	1000	-0022	3464	2785		0002530	0315	14645	541								
	STD	1028	-0028	34637	2785				14647	546	235	111	012	236	099	796		
044	OBS	1100	-0039	3464	2785		0002429	0340	14654	557								
	STD	1200	-0055	3463	2786		0002313	0363	14663	572								
044	OBS	T1281	-0067	34631	2786				14671	584	233	142	012	253	095	794		
	STD	1300	-0077	3463	2786		0002147	0386	14670	591								
044	OBS	T1333	-0098	34622	2787				14666	606	231	080	006	194	090	799		

REFERENCE CTRY CODE	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DELT. HOUR	MARSDEN SQUARE	STATION TIME 10° 17' MO DAY HRS 1/10	TEAM	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLES	WAVE OBSERVATIONS		WEA- THER CODE	CLOUD CODES TYPE AMT		NODC STATION NUMBER	
								CRUISE NO.	STATION NUMBER			DIR.	HGT PER SEA					
318037	GL	71317S	052434W	557	12	02 20 150	1968	021	1777	18	00 00 X	7	8			0029		
								WATER		WIND		BARO- METER (mba)	AIR TEMP. °C	SPECIAL OBSERVATIONS				
								COLOR CODE	TRANS. UN.	OIL.	SPEED OR FORCE	DRY BULB	WET BULB	VIS. CODE	NO. OBS. DEPTHS			
								16	S05	946	-044	-047	6	21				
MESSING TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S %	SIGMA-T		SPECIFIC VOLUME ANOMALY -210°	Σ Δ O DYN. M. X 10³		SOUND VELOCITY	D₂ ml/l	PO₄-P µg - dl/l	NH₃-N µg - dl/l	NO₂-N µg - dl/l	NO₃-N µg - dl/l	SiO₄-Si µg - dl/l	pH
																	SCC	
163		STD	0000	-0172	3408	2745	0006411	0000		14400	771							
163	OBS	0000	-0172	34079	2745			0006378	0006	14400	771	211	777	024	216	069	816	
163	STD	0010	-0180	3408	2745					14398	781							
163	OBS	0010	-0180	34080	2745					14398	781	202	423	018	215	068	817	
163	STD	0020	-0182	3409	2746			0006290	0013	14399	778							
163	OBS	0025	-0183	34095	2746					14399	775	203	016	018	220	069	816	
163	STD	0030	-0182	3413	2749					14401	766							
163	STD	0050	-0179	3427	2761			0004895	0030	14408	735							
163	OBS	0051	-0179							734	211	274	021	208	073	815		
163	STD	0075	-0180	3440	2771			000388*	0041	14413	714							
163	OBS	0077	-0180							713	220	155	020	238	071	813		
163	STD	0100	-0182	3448	2778			0003247	0050	14418	712							
163	OBS	0102	-0182	34484	2778					14418	712	225	110	017	252	072	814	
163	STD	0125	-0181	3449	2778			0003159	0058	14422	708							
163	OBS	0150	-0179	3449	2778			0003149	0066	14427	703							
163	OBS	0153	-0179	34491	2779					14428	702	226	175	012	204	073	813	
163	STD	0200	-0177	3449	2778			0003126	0081	14437	697							
163	OBS	0205	-0176	34490	2778					14438	696	220	101	007	247	073	813	
163	STD	0250	-0122	3455	2782			0002835	0096	14472	688							
163	STD	0300	-0072	3460	2784			0002656	0110	14504	661							
163	OBS	T0306	-0137P	34606	2787P					656	228	192	010	219	079	812		
163	STD	0400	-0002	3463	2783			000281*	0137	14553	539							
163	OBS	0410	0003	34629	2783					14557	532	234	144	008	275	091	804	
163	STD	0500	0028	3465	2783			0002824	0165	14584	517							
163	OBS	T0513	0030	34652	2783					14587	516	239	178	009	234	096	804	
145	OBS	T0588	0029	34667	2784					14599	512	231	012	231	102	792		
163	STD	0600	0029	3467	2784			0002720	0193	14601	512							
163	OBS	T0616	0028	34662	2784					14603	513	236	174	011		100	792	
145	OBS	0694	0028	34671	2785					14617	517	216	123	009	246	103	795	
145	STD	0700	0028	3467	2785			000267*	0220	14618	516							
145	OBS	0796	0027	34672	2785					14633	511	212	106	013	265	106	796	
145	STD	0800	0027	3467	2785			0002658	0247	14634	511							
145	STD	0900	0024	3467	2785			0002630	0273	14649	513							
145	OBS	0999	0020	34674	2785					14664	515	221	159	009	239	110	796	
145	STD	1000	0020	3467	2785			0002592	0299	14664	515							
145	STD	1100	0018	3467	2785			0002577	0325	14680	519							
145	STD	1200	0011	3467	2786			0002526	0351	14694	524							
145	OBS	T1254	0006	34673	2786					14701	526	213	153	012	247	112	797	
145	STD	1300	0000	3467	2786			0002454	0375	14706	532							
145	STD	1400	-0015	3466	2786			0002397	0400	14716	549							
145	STD	1500	-0033	3466	2787			0002234	0423	14724	570							
145	OBS	1505	-0034	34657	2787					14725	571	236	270	018	229	107	796	
145	OBS	T1690	-0077	34643	2787					14736	622	231	149	010	233	094	794	
145	OBS	1743	-0096	34641	2788					14737	636	226	229	010	211	090	796	
145	STD	1750	-0099	3464	2788			0001778	0473	14736	636							
145	OBS	T1775	-0113	34634	2788					14734	635	217	138	014	217	088	799	

REFERENCE		SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DEPTH AGL 10° 1°	MARSDEN SQUARE	STATION TIME (GMT)	YEAR	ORIGINATOR'S		DEPTN TO BOTTOM	MAX. DEPTH OF SAMPLES	WAVE OBSERVATIONS			WEA- TER CODE	CLOUD CODES	NOOC STATION NUMBER
CITY CODE	IO. NO.								CRUISE NO.	STATION NUMBER			DUR.	HGT	PER.	SEA.		
318037	GL	70569S	050265W	557	00 02 23 060	1968	025	2926	11	00 0 X	73	7 8					0032	

COLOR CODE	TRANS. (m)	WATER		WIND		BARO- METER (mbes)		AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS			
		DRY	WET	DRY	WET	DRY	WET	DRY	WET			DRY	WET	DRY	
		10	S27	825	-022	-024	6	15							

MESSAGE TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S %	SIGMA-T	SPECIFIC VOLUME ANOMALY-X10 ⁷	Σ Δ O DYN. M. X 10 ³	SOND VELOCITY	O ₂ ml/l	PO ₄ -P μg - ml/l	NH ₃ -N μg - ml/l	NO ₂ -N μg - ml/l	NO ₃ -N μg - ml/l	Si O ₄ -Si μg - ml/l	pH	SCC
		STD	0000	-0184	3408	2745	0006360	0000	14394	744							
070	OBS	0000	-0184	34082	2745			14394	744	205	464	014	248	080	808		
	STD	0010	-0184	3408	2745		0006369	0006	14396	779							
070	OBS	0011	-0184	34077	2745			14396	781	204	222	020	175	077	812		
	STD	0020	-0184	3408	2745		0006385	0013	14398	774							
070	OBS	0028	-0184	34076	2745			14399	765	206	185	016	216	079	807		
	STD	0030	-0183	3412	2749		0006050	0019	14400	761							
	STD	0050	-0173	3443	2773		0003683	0029	14413	728							
070	OBS	0055	-0172	34480	2777		000321	0037	14415	722	213	160	013	220	077	808	
	STD	0075	-0173	3449	2778			14418	705								
070	OBS	0083	-0173	34493	2779			14419	699	220	508	016	210	079	803		
	STD	0100	-0166	3450	2779		0003138	0045	14425	686							
070	OBS	0110	-0163	34501	2779			14429	680	217			205	081	807		
	STD	0125	-0163	3450	2779		000311	0053	14431	677							
	STD	0150	-0163	3451	2779		0003065	0061	14435	671							
	STD	0200	-0164	3451	2780		0002984	0076	14443	659							
070	OBS	T0222	-0164	34517	2780			14447	654	220	158	006	183	080	805		
	STD	0250	-0116	3456	2782		0002783	0090	14475	613							
	STD	0300	-0048	3462	2784		0002622	0104	14515	557							
070	OBS	0331	-0018	34640	2785			14535	534	230	404	010	268	090	792		
	STD	0400	0005	3464	2784		0002732	0131	14557	529							
070	OBS	0441	0013	34645	2783			14567	526	230	177	020	294	094	798		
070	OBS	T0552	0014	3465	2784		0002729	0158	14577	521							
	STD	0600	0016	3466	2784		0002697	0185	14586	517	230	312	012	232	092	799	
070	OBS	0662	-01710	34660	27920				510	233	446	023	214	097	798		
	STD	0700	0019	3466	2784		0002685	0212	14613	510							
070	OBS	0772	0022	34664	2784			14627	508	235	212	016		100	798		
	STD	0800	0021	3467	2785		0002659	0239	14631	506							
070	OBS	0883	0018	34670	2785			14644	504	232	189	008	251	095	797		
	STD	0900	0018	3467	2785		0002604	0265	14646	506							
	STD	1000	0015	3467	2785		0002583	0291	14662	517							
070	OBS	T1001	0015	34665	2785			14662	517	237	289	007	231	096	795		
	STD	1100	0011	3466	2785		0002595	0317	14677	518							
070	OBS	T1103	0011	34664	2785			14677	518	235	270	008	272	100	796		

REFERENCE CITY CODE	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DATE HOUR 10° 1°	MARSSEN SQUARE	STATION TIME (GMT)	YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SMPL'S	WAVE OBSERVATIONS			WEA- TER CODE	CLOUD CODES	TYPE AMT	NOOC STATION NUMBER	
								CRUISE NO.	STATION NUMBER			DIRE.	HR.	MIN.	SEC.	DIR.	HGT PER SEA		
318037	GL	702825	046584W	556 06 02 25	060	1968	027			3173	10	00	0	X	71	6	8	0034	
					WATER	WIND													
					COLOR CODE	TRANS LNU	DIR.	SPD. OF FORCE	BARO- METER (mb)	AIR TEMP. °C	OXY BULB	WET BULB	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS					
							24	S07	926	-021	-029	6	16						
MESSINGER TIME OF NR 1/10	CAST NO.	CABO TYPE	DEPTH (m)	T °C	S %	SIGMA-T	SPECIFIC VOLUME AND MALT-X10 ³	Σ Δ D DYN. M. X 10 ³	SOND VELOCITY	O ₂ m/l	P0-P μg - ml/l	NH ₃ -N μg - ml/l	NO ₂ -N μg - ml/l	NO ₃ -N μg - ml/l	SO ₄ -Si μg - ml/l	pH	SCC		
049		STD	0000	-0179	3400	2739	0006978	0000	14396	748									
049	OBS	0000	-0179	34003	2739		0007052	0007	14396	779									
049	OBS	0010	-0181	3399	2738		0005848	0013	14403	754									
049	OBS	0020	-0174	3415	2751		0004696	0019	14408	723									
049	OBS	0025	-0172	34220	2756		0003156	0027	14416	670									
049	OBS	0030	-0172	3430	2763		0002761	0034	14426	643									
049	OBS	0050	-0169	3450	2779		0002045	0042	14427	644									
049	OBS	0052	-0169	34509	2780		0001356	0057	14437	644									
049	OBS	0075	-0157	3451	2779		00006978	0050	14446	617									
049	OBS	0078	-0155	34514	2780		00002761	0071	14448	583									
049	OBS	0100	-0146	3452	2780		00002045	0121	14451	543									
049	OBS	0104	-0143	34525	2780		00001356	0152	14452	528									
049	OBS	0125	-0108	3455	2781		000006978	0205	14453	519									
049	OBS	0150	-0071	3458	2782		00002761	0257	14454	517									
049	OBS	0155	-0065	34584	2782		000006978	0307	14455	509									
049	OBS	0200	-0018	3462	2783		00002045	0357	14456	508									
049	OBS	T0207	-0013	34630	2783		00001356	0407	14457	538									
049	OBS	0250	-0004	3464	2784		000006978	0457	14458	506									
049	OBS	0300	0006	3465	2784		00002761	0508	14459	508									
049	OBS	0312	0008	34649	2784		000006978	0557	14460	510									
049	OBS	0400	0022	3466	2784		00002045	0605	14461	522									
049	OBS	0416	0023	34665	2784		00001356	0655	14462	524									
049	OBS	0500	0025	3467	2785		000006978	0705	14463	523									
049	OBS	0520	0025	34669	2785		00002761	0755	14464	522									
049	OBS	0600	0025	3467	2785		00002655	0805	14465	532									
049	OBS	0624	0024	34671	2785		00002614	0855	14466	534									
049	OBS	0700	0019	3467	2785		00002630	0905	14467	533									
049	OBS	T0729	0018	34666	2785		00002612	0955	14468	530									
049	OBS	0800	0017	3467	2785		00002592	1005	14469	524									
049	OBS	T0833	0016	34666	2785		00002592	1055	14470	523									
049	OBS	0900	0013	3467	2785		00002592	1105	14471	522									
049	OBS	T0932	0012	34667	2785		00002592	1155	14472	521									
049	OBS	1000	0009	3466	2785		00002592	1205	14473	520									
049	OBS	T1035	0008	34658	2785		00002592	1255	14474	519									

REFERENCE CITY CODE	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DEPTH INCHES	MARSDEN SQUARE	STATION TIME (GMT)	YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLES	WAVE OBSERVATIONS			WEA- TER CODE	CLOUD CODES	TYPE	AMT	NOAA STATION NUMBER
								CRUISE NO.	STATION NUMBER			DIM.	HGT	PER	SEA				
318037	GL	701435	050103W	557 00	02 25 210	1968	028		3265	33	00	0	X		71	7 8		0035	
MESSINGR TIME or HR 1/10		CAST NO.	CARD TYPE	DEPTH (m)	T °C	S %	SIGMA-T	SPECIFIC VOLUME ANOMALY=x10 ⁻³	ΣΔΩ DYN. M. X 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P µg = ol/l	NH ₃ -N µg = ol/l	NO ₂ -N µg = ol/l	NO ₃ -N µg = ol/l	SiO ₄ -Si µg = ol/l	pH		
214		STD	0000	-0180	3419	2754	0005508	0000	14398	708									
214		OBS	0000	-0180	34194	2754			14398	708	218	166	037	214	085				
214		STD	0010	-0183	3419	2755	0005495	0006	14398	714									
214		OBS	0010	-0183	34194	2755			14398	714	213	175	037	221	085	816			
214		STD	0020	-0184	3420	2755	0005464	0011	14400	714									
214		OBS	0026	-0184	34199	2755			14400	714	217	213	027	191	085	817			
214		STD	0030	-0182	3426	2760	0004977	0016	14403	710									
214		STD	0050	-0173	3447	2777	0003375	0025	14413	688									
214		OBS	0051	-0173	34481	2778			14414	687	220	074	027	204	088	813			
214		STD	0075	-0173	3450	2779	0003132	0033	14418	662									
214		OBS	0077	-0173	34502	2779			14418	661	225	202	025	221	088	808			
214		STD	0100	-0168	3451	2780	0003056	0040	14425	657									
214		OBS	0103	-0167	34512	2780			14426	656	236	046	018	216	088	807			
214		STD	0125	-0162	3452	2780	0002983	0048	14432	649									
214		STD	0150	-0147	3453	2781	0002949	0055	14443	636									
214		OBS	0154	-0144	34530	2781			14445	633	228	078	026	244					
214		STD	0200	-0085	3457	2782	0002853	0070	14481	594									
214		OBS	T0205	-0080	34574	2782			14484	590	234	109	016	238	092	804			
214		STD	0250	-0043	3461	2783	0002732	0084	14509	566									
214		STD	0300	-0014	3463	2784	0002727	0098	14531	546									
214		OBS	0308	-0010	34634	2784			14534	544	240	272	017	232	097	803			
214		STD	0400	0007	3465	2784	000269*	0125	14558	532									
214		OBS	0411	0009	34652	2784			14560	531	224	152	023	261	101	800			
214		STD	0500	0018	3466	2784	0002683	0151	14579	520									
214		OBS	0513	0019	34665	2785			14582	519	230	133	018	255	108	801			
214		STD	0600	0021	3466	2784	000267	0178	14597	516									
214		OBS	0615	0021	34664	2784			14600	515	231	195	020	233	110	801			
214		STD	0700	0019	3466	2784	0002676	0205	14613	509									
214		OBS	T0717	0019	34661	2784			14616	508	230	203	006	213	109	799			
214		STD	0800	0017	3466	2784	0002675	0232	14629	514									
214		OBS	T0826	0016	34657	2784			14633	518	229	037	021	220	114	800			
214		STD	0900	0014	3466	2784	0002659	0258	14645	539									
214		OBS	T0920	0013	34660	2785			14647	545	229	185	018	228	114	799			
184		OBS	T0932	0012	34670	2785			14649	530	240	316	018	219	114	800			
184		STD	1000	0010	3466	2785	0002602	0285	14659	521									
214		OBS	T1021	0009	34659	2785			14663	518	230	136	027	242	113	802			
184		OBS	1033	0009	34665	2785			14665	529	238	106	022		118	802			
184		STD	1100	0007	3467	2785	0002556	0310	14675	530									
184		STD	1200	0003	3466	2785	0002528	0336	14690	532									
184		OBS	1287	0000	34664	2786			14703	536	239	06	014	258	119	800			
184		STD	1300	-0001	3466	2786	0002491	0361	14705	537									
184		STD	1400	-0004	3466	2786	0002467	0386	14721	547									
184		STD	1500	-0008	3466	2786	0002434	0410	14736	553									
184		OBS	1540	-0009	34661	2786			14742	555	234	36	022	226	115	801			
184		STD	1750	-0013	3465	2785	0002430	0471	14776	555									
184		OBS	1646	-0015	34651	2785			14791	555	240	235	012	256	117	800			
184		STD	2000	-0019	3465	2786	0002365	0531	14816	557									
184		OBS	T2162	-0022	34654	2786			14843	559	238		018	216	113	798			
184		OBS	2462	-0026	34651	2786			14892	576	239	160	013	288	116	797			
184		STD	2500	-0026	3465	2786	0002257	0647	14899	577									
184		OBS	T2776	-0031	34649	2786			14945	583	240	050	014	217	114	795			
184		STD	3000	-0032	3465	2786	0002160	0757	14983	587									
184		OBS	T3080	-0041	34645	2786			14993	588	240	045	013	215	112	794			
184		OBS	3209	-0066	34643	2787			15005	635	232	096	006	280	095	795			
184		OBS	T3260	-0080	34639	2787			15007	626	237	137	029	207	094	797			

REFERENCE CITY CODE	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DELT INDEX	MARDEN SQUARE	STATION TIME (GMT)	YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLE'S	WAVE OBSERVATIONS			WEA- TER CODE	CLOUD CODES	TYPE AMT	NOOC STATION NUMBER
								CRUISE ND.	STATION NUMBER			DIR.	HGT PER SEA					
318037	GL	70118S	051207W	557	01 02 26	090	1968		029	3167	10 00 0 X				6 8			0036

WATER		WIND		BARO- METER (mb)		AIR TEMP. °C		SPECIAL OBSERVATIONS	
COLOR CODE	TRANS. UNI	DIR.	SPEED OR FORCE	DRY BULB	WET BULB	VIS. CDG	ND. OBS. DEPTH	DIR.	HGT PER SEA
		18	S17	868	-042	-052	6	07	

MESSENG ER TIME NR 1/10	CAST NR	CARD TYPE	DEPTH m	T °C	S %	SIGMA-T	SPECIFIC VOLUME ANOMALY- $\times 10^6$	$\Sigma \Delta D$ DYN. M. $\times 10^3$	DEPTH TO BOTTOM	SOUND VELOCITY	D ₂ m/l	P _{O₂} -P μg - ml/l	NH ₃ -N μg - ml/l	ND ₂ -N μg - ml/l	NO ₃ -N μg - ml/l	SI D ₄ -Si μg - ml/l	pH	SCC
072	OBS	T0378	0009	34655	2784				14554	531	225	242	021	215	106	804		
	STD	0400	0014	3466	2784	0002658			14560	525								
072	OBS	T0474	0023	34668	2785		0002640		14577	512	228	263	022	249	109	804		
072	OBS	0500	0023	3467	2785				14581	513								
072	OBS	0571	0022	34674	2785				14593	515	232	333	015	256	108	801		
072	OBS	0600	0021	3467	2785	0002598			14597	515								
072	OBS	0668	0019	34673	2785				14607	515	232	278	023		112	800		
072	OBS	0700	0019	3467	2785	0002592			14613	511								
072	OBS	0764	0018	34673	2785				14623	510	237	109	018	245	112	801		
072	OBS	0800	0016	3467	2785	0002578			14628	517								
072	OBS	0862	0013	34670	2785				14637	524	233	188	017	238	116	802		
	STD	0900	0011	3467	2785	0002554			14643	523								
072	OBS	0959	0007	34667	2785				14651	522	247	063	019	204	109	805		

REFERENCE CTRY. CODE	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	OFLT Z	MARSDEN SQUARE	STATION TIME (GMT)	YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SMPL'S	WAVE OBSERVATIONS			WEA- TER CODE	CLOUD CODES			NODC STATION NUMBER
								CRUISE NO.	STATION NUMBER			DRL	HGT	PER	SEA				
318037	GL	682045	049210W	520	89 02	28 180	1968	032	3541	35	00	0	X		71	7 8		0041	

MESSENG TIME HR 1/10	CAST NO.	CARO TYPE	DEPTH (m)	WATER		WIND		BARO- METER Umbal	AIR TEMP. °C		VIS. CODE	SPECIAL OBSERVATIONS	
				COLOR CODE	TRANS. UNI	DIR.	SPEED OR FORCE		DRY BULB	WET BULB		NO. OBS. DEPTHS	
				24	SO8	895	-100	-105	6	26			

MESSENG TIME HR 1/10	CAST NO.	CARO TYPE	DEPTH (m)	T °C	S %	SIGMA-T	SPECIFIC VOLUME ANOMALY- $\times 10^3$	$\Sigma \Delta O$ OYN, M. $\times 10^3$	DEPTH TO BOTTOM	SO2	O2 ml/l	PO4-P ug - ol/l	NH3-N ug - ol/l	NO2-N ug - ol/l	NO3-N ug - ol/l	SiO4-Si ug - ol/l	pH	SC
		STD	0000	-0179	3414	2750	0005956	0000	14398	680								
189	OBS	0000	-0179	34136	2750				14398	680	207					090	814	
		STD	0010	-0183	3413	2749	0006002	0006	14397	680								
189	OBS	0010	-0183	34128	2749				14397	680	206					087	813	
		STD	0020	-0184	3413	2749	0006002	0012	14399	665								
189	OBS	0026	-0184	34126	2749				14399	556	206					086	815	
		STD	0030	-0180	3420	2755	0005443	0018	14403	649								
		STD	0050	-0166	3444	2774	0003625	0027	14416	625								
189	OBS	0052	-0165	34459	2776				14417	623	219					092	808	
		STD	0075	-0166	3449	2778	0003259	0035	14421	619								
189	OBS	0078	-0166	34489	2778				14422	618	222					092	808	
		STD	0100	-0165	3450	2779	000314*	0043	14426	618								
189	OBS	0104	-0163	34505	2779				14428	617	222					092		
		STD	0125	-0139	3453	2781	0002980	0051	14443	597								
		STD	0150	-0104	3456	2782	0002867	0058	14464	570								
189	OBS	0155	-0096	34563	2782				14468	564	234					099	805	
		STD	0200	-0008	3464	2784	0002692	0072	14517	498								
189	OBS	T0207	0002	34647	2784				14523	491	237					109	803	
		STD	0250	0009	3465	2784	0002692	0086	14534	493								
		STD	0300	0014	3466	2784	0002683	0099	14544	496								
189	OBS	0311	0015	34658	2784				14547	496	236					111	804	
		STD	0400	0015	3466	2784	0002665	0126	14561	480								
189	OBS	0415	0015	34664	2785				14564	478	236					115	798	
		STD	0500	0030	3467	2784	0002686	0153	14585	472								
189	OBS	T0519	0032	34676	2785				14589	471	240					118	802	
		STD	0600	0033	3468	2785	0002641	0179	14603	476								
189	OBS	T0624	0033	34680	2785				14607	477	236					120	795	
		STD	0700	0031	3468	2785	0002624	0206	14619	479								
		STD	0800	0027	3468	2785	0002598	0232	14634	481								
189	OBS	T0825	0026	34678	2785				14638	482	237					123	796	
		STD	0900	0023	3468	2785	0002592	0258	14649	483								
		STD	1000	0019	3468	2786	0002570	0283	14664	488								
189	OBS	T1027	0017	34675	2786				14667	490	238					123	800	
220	OBS	T1075	0014	34675	2786				14674	494	235					124	803	
		STD	1100	0013	3467	2785	0002566	0309	14678	495								
		STD	1200	0009	3467	2785	0002532	0335	14693	499								
		STD	1300	0005	3467	2786	0002496	0360	14708	503								
220	OBS	1329	0004	34667	2786				14712	504	240					114	801	
		STD	1400	0001	3467	2786	0002480	0385	14723	507								
		STD	1500	-0002	3467	2786	0002457	0409	14739	512								
220	OBS	1579	-0005	34666	2786				14751	516	240					123		
		STD	1750	-0009	3466	2786	0002393	0470	14778	528								
220	OBS	1891	-0013	34663	2786				14800	533	237					121	794	
		STD	2000	-0016	3466	2786	0002314	0529	14818	533								
220	OBS	2198	-0021	34662	2786				14849	532	238					116	794	
		STD	2500	-0026	3466	2787	0002185	0641	14899	544								
220	OBS	2508	-0026	34659	2786				14901	544	240					114	793	
220	OBS	2814	-0030	34656	2786				14952	547	242					125	792	
		STD	3000	-0031	3465	2786	0002115	0749	14984	549								
220	OBS	T3124	-0034	34653	2786				15004	553	231					120	780	
220	OBS	3437	-0052	34635	2786				15051	570	235					118	788	
220	OBS	T3490	-0062	34630	2786				15056	578	231					113	790	
220	OBS	T3515	-0065	34635	2786				15059	584	231					111	791	
220	OBS	3532	-0065	34653	2788	-			15062	583	227					103	782	

REFERENCE CITY CODE	SNIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRAFT LAUNCH	MARSDEN SQUARE	STATION TIME (GMT)	YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLES	WAVE OBSERVATIONS			WEA- TER CODE	CLOUD CODES	TYPE AMT	NOCC STATION NUMBER
								CRUISE NO.	STATION NUMBER			DIR.	HGT PER SEA					
318037	GL	68149S	047513W	520	87	02	29	180	1968	034	3475	05	00	0	X	6	8	0043

WATER COLOR CODE	WIND TRANS. (m)	WIND DIR.	BARO- METER (mb)	AIR TEMP. °C DRY RULE	AIR TEMP. °C WET RULE	VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
		08	503	929	-075	-085	7	11

MESSANGER TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S %	SIGMA-T	SPECIFIC VOLUME ANOMALY - $\times 10^3$	$\Sigma \Delta D$ DYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P ug - ot/l	NH ₃ -N ug - ot/l	NO ₂ -N ug - ot/l	NO ₃ -N ug - ot/l	Si O ₄ -Si ug - ot/l	pH	SCC		
		STD	0000	-0145	3410	2746	0006288	0000	14413	698									
181	OBS	0000	-0145	34104	2746				14413	698	194					085	804		
	STD	0010	-0171	3410	2747		0006222	0006	14403	708							086	804	
181	OBS	0010	-0171	34103	2747				14403	708	202								
	STD	0020	-0179	3410	2747		0006205	0012	14400	724									
181	OBS	0025	-0180	34101	2747				14401	725	203							086	804
	STD	0030	-0176	3419	2754		0005529	0018	14405	703									
181	OBS	0050	-0161	3445	2775		0003563	0027	14419	647									
	STD	0051	-0160	34457	2775				14420	645	212							089	801
	STD	0075	-0158	3450	2779		0003174	0036	14425	648									
181	OBS	0076	-0158	34505	2779				14425	648	219							090	798
	STD	0100	-0141	3452	2780		0003061	0044	14437	626									
181	OBS	0102	-0140	34523	2780				14438	624	219							093	797
	STD	0125	-0135	3453	2780		0002993	0051	14445	613									
	STD	0150	-0118	3454	2781		0002967	0059	14457	598									
181	OBS	0153	-0115	34543	2781				14459	596	225							094	794
	STD	0200	-0047	3461	2783		0002760	0073	14499	555									
181	OBS	0204	-0042	34610	2783				14502	552	226							098	794
	STD	0250	-0006	3464	2784		0002730	0087	14527	514									
	STD	0300	0019	3466	2785		0002659	0100	14547	487									
181	OBS	0306	0021	34667	2785				14549	485	229							106	791
	STD	0400	0024	3467	2785		0002645	0127	14566	485								108	790
181	OBS	0409	0025	34674	2785				14568	485	230								
	STD	0500	0032	3468	2785		0002624	0153	14586	479									
181	OBS	0513	0033	34680	2785				14589	478	229							113	790

REFERENCE CTRY CODE	ID. NO.	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DEPTH INDEXT	MARDSSEN SQUARE	STATION TIME (GMT)			YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAR. DEPTH OF SAMPLES	WAVE OBSERVATIONS			WEA- TER CODE	CLOUD CODES	NODE STATION NUMBER
							10°	1°	MO	DAY	HR 1/10	CRUISE NO.	STATION NUMBER		DRL	HGT	PER	SEA		
318037	GL	682535	045501W	520 85	03 01	090	1968	035	3877	21	00	0	X	X1	7	7		0044		

REFERENCE CITY CODE	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DEPTH INCHES	MARDEN SQUARE	STATION NO.	TIME HR. 1/10	YEAR	ORIGINATOR'S CRUISE NO.		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLES	WAVE OBSERVATIONS		WEA- THER CODE	CLOUD CODES	TYPE AMT	NOOC STATION NUMBER
									STATION NUMBER	IGMT			ORIG. BULB	WET BULB	VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS	
318037	GL	69412S	046163W	520 96	03 02	050	1968	037	3857	39	00	00	X	X1	6	7	0047	
									WATER	WIND	BARO- METER UMB	AIR TEMP. °C						
					COLOR CODE	TRANS. UNI	DIR.	SPEED OR FORCE	ORY BULB	WET BULB								
					11	505		873	-025	-036	7	29						
MESSENGHR TIME HR 1/10	CAST HO.	CARO TYPE	DEPTH (m)	T °C	S %	SIGMA-T	SPECIFIC VOLUME ANOMALY -10 ³	Σ Δ DYN. M. X 10 ³	SOUND VELOCITT	O ₂ ml/l	P0 ₄ -P µg - ml/l	NH ₃ -N µg - ml/l	NO ₂ -N µg - ml/l	NO ₃ -N µg - ml/l	SiO ₄ -Si µg - ml/l	PH	SC	
074	STD	0000	-0179	3411	2748	0006164	0000	14397	689									
074	OBS	0000	-0179	34109	2748			14397	689	210								086 811
074	STD	0010	-0184	3410	2747	0006192	0006	14396	693									086 811
074	OBS	0010	-0184	34103	2747			14396	693	203								
074	STD	0020	-0185	3410	2747	0006199	0012	14398	697									
074	OBS	0026	-0185	34100	2747			14399	700	210								084 812
074	STD	0030	-0181	3417	2753	0005671	0018	14402	687									
074	STD	0050	-0165	3444	2774	0003628	0028	14417	634									
074	OBS	0052	-0164	34461	2776			14418	630	220								087 806
074	STD	0075	-0153	3448	2777	0003342	0036	14427	620									
074	STD	0100	-0138	3450	2778	0003224	0045	14439	606									
074	OBS	0103	-0136	34502	2778			14440	604	222								092 805
074	STD	0125	-0121	3452	2779	0003119	0052	14451	590									
074	STD	0150	-0097	3455	2781	0002971	0060	14467	570									
074	OBS	0154	-0092	34556	2781			14470	567	229								094 804
074	STD	0200	-0023	3462	2783	0002765	0074	14510	518									
074	OBS	T0205	-0018	34622	2783			14513	514	230								100 800
074	STD	0250	0009	3465	2784	0002738	0088	14534	491									
074	OBS	0257	0012	34650	2784			14536	489	238								103 798
074	STD	0300	0019	3466	2784	0002690	0102	14547	483									
074	OBS	T0309	0020	34661	2784			14549	482	237								106 797
074	STD	0400	0029	3467	2784	0002707	0129	14568	479									
074	OBS	0411	0030	34667	2784			14570	478	238								108 797
074	STD	0500	0030	3467	2784	0002686	0156	14585	472									
074	OBS	T0512	0030	34672	2785			14587	471	238								110 799
074	STD	0600	0029	3467	2785	0002653	0182	14601	475									
074	OBS	0614	0029	34674	2785			14604	476	240								113 796
074	STD	0700	0028	3468	2785	0002633	0209	14618	477									
074	OBS	T0719	0027	34677	2785			14620	478	249								115 797
074	STD	0800	0023	3467	2785	0002617	0235	14632	484									
074	OBS	T0810	0023	34674	2785			14634	485	228								116 796
074	STD	0900	0020	3467	2785	0002599	0261	14647	488									
074	STD	1000	0017	3467	2785	000258	0287	14663	491									
074	OBS	T1018	0016	34672	2785			14665	491	247								119 795
016	OBS	T1036	0016	34680	2786	0002552	0313	14678	493									118 801
016	STD	1100	0014	3467	2786			14684	496	270								
016	OBS	T1140	0012	34674	2786			14708	499									119 800
016	STD	1200	0010	3467	2786	0002540	0338	14715	500	252								
016	OBS	1344	0005	34669	2786			14724	502									
016	STD	1400	0004	3467	2786	0002499	0388	14740	506									
016	STD	1500	0001	3467	2786	0002476	0413	14763	512	256								118 802
016	OBS	1650	-0004	34665	2786			14778	518									
016	STD	1750	-0008	3466	2786	0002402	0474	14810	528	252								
016	OBS	1956	-0015	34661	2786			14818	529									
016	STD	2000	-0016	3466	2786	0002336	0533	14860	537	252								
016	OBS	T2262	-0021	34658	2786			14901	538									
016	STD	2500	-0022	3466	2786	0002250	0648	541	251									
016	OBS	2567Q	-0025	34658	2786			539	252									117 797
016	OBS	28720	-0028	34656	2786	0002182	0759	14986	544									
039	STD	3000	-0026	3465	2786			15017	548	256								115 796
039	OBS	T3185	-0029	34652	2786			15068	557	252								115 794
039	OBS	3491	-0035	34649	2786			15113	569	240								111 792
039	OBS	3773	-0047	34636	2786			15116	575	251								109 790
039	OBS	3798	-0049	34637	2786			15118	579	226								107 791
039	OBS	T3817	-0053	34637	2786			15121	580	222								097 797
039	OBS	T3855	-0062	34645	2787													

REFERENCE CITY CODE	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRAFT INCHES	MARSEN SQUARE	STATION TIME (GMT)	YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLES	WAVE OBSERVATIONS			WEA- TER CODE	CLOUD CODES	TYPE	AMT	NOAA STATION NUMBER
								CRUISE NO.	STATION NUMBER			DIL.	HGT	PER	SEA				
318037	GL	710935	043437W	556	13 03 03 060	1968	039			3365	20	00	0	X	X1	03		0050	

WATER	WIND		BARO- METER (mba)	AIR TEMP. °C		VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
COLOR CODE	TRANS. (m)	DIR.		DRY BULB	WET BULB			
DT	SD	21	506	868	-036	-042	7	34

MESSNGR TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S %	SIGMA-T	SPECIFIC VOLUME ANOMALY- $\times 10^3$	$\Sigma \Delta O$ OYN. M. $\times 10^3$	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - at/l	NH ₃ -N μg - at/l	NO ₂ -N μg - at/l	NO ₃ -N μg - at/l	SiO ₄ -Si μg - at/l	pH	SCC
070	STD	0000	-0184	3390	2731	0007767	0000	14392									
	OBS	0000	-0184	33899	2731			14392									
	STD	0010	-0184	3391	2732	0007644	0008	14394									
004	OBS	0010	-0184	33914	2732			14394									
	OBS	0017	-0184	33917	2732			14395									
	STD	0020	-0154	3443	2773	0003759	0013	14417									
	OBS	0020	-0154	34429	2773			14417									
	OBS	0025	-0170	34460	2776			14411									
	STD	0030	-0173	3447	2777	0003396	0017	14410									
	OBS	0030	-0173	34469	2777			14410									
	OBS	0040	-0176	34490	2778			14411									
	STD	0050	-0177	3450	2779	0003144	0024	14412									
	OBS	0050	-0177	34499	2779			14412									
	STD	0075	-0172	3452	2781	0002997	0031	14419									
	OBS	0075	-0172	34518	2781			14419									
	STD	0100	-0154	3453	2781	0002951	0039	14431									
	OBS	0100	-0154	34529	2781			14431									
	OBS	0112	-0141	34549	2782			14440									
	OBS	0121	-0148	34527	2781			14438									
	STD	0125	-0136	3453	2780	0002998	0046	14444									
	OBS	0125	-0136	34529	2780			14444									
	STD	0150	-0087	3463	2787	0002409	0053	14473									
	OBS	0150	-0087	34629	2787			14473									
	STD	0200	-0021	3467	2787	0002403	0065	14512									
	OBS	0200	-0021	34669	2787			14512									
	STD	0250	0004	34645	2784	0002687	0078	14531									
	OBS	0250	0004	34649	2784			14531									
	STD	0300	0003	3464	2784	0002717	0091	14539									
	OBS	0300	0003	34644	2784			14539									
	STD	0400	0016	3466	2785	0002656	0118	14562									
	OBS	0400	0016	34662	2785			14562									
	STD	0500	0022	3467	2785	0002641	0144	14581									
	OBS	0500	0022	34669	2785			14581									
	STD	0600	0023	3467	2785	0002649	0171	14599									
	OBS	0600	0023	34669	2785			14599									
	STD	0700	0021	3467	2785	0002636	0197	14614									
	OBS	0700	0021	34669	2785			14614									
	STD	0800	0016	3467	2785	0002600	0223	14629									
	OBS	0800	0016	34669	2785			14629									
	STD	0900	0016	3467	2785	0002599	0249	14646									
	OBS	0900	0016	34669	2785			14646									
	STD	1000	0013	3467	2785	0002575	0275	14661									
	OBS	1000	0013	34669	2785			14661									
	STD	1100	0007	3467	2786	0002526	0301	14675									
	OBS	1100	0007	34669	2786			14675									
	STD	1200	0005	3467	2786	0002507	0326	14691									
	OBS	1200	0005	34669	2786			14691									
	STD	1300	0000	3467	2786	0002462	0351	14706									
	OBS	1300	0000	34669	2786			14706									
	STD	1400	-0004	3467	2786	0002452	0375	14721									
	OBS	1400	-0004	34665	2786			14721									
	STD	1500	-0007	3466	2786	0002428	0400	14736									
	OBS	1500	-0007	34664	2786			14736									
	OBS	1600	-0010	34662	2786			14752									
	OBS	1700	-0013	34660	2786			14768									
	STD	1750	-0014	3466	2786	0002376	0460	14776									
	OBS	1800	-0015	34659	2786			14784									
	OBS	1900	-0017	34659	2786			14800									
	STD	2000	-0019	3466	2786	0002314	0519	14816									
	OBS	2000	-0019	34659	2786			14816									

REFERENCE CTRY CODE	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DEPTH METERS	MARSOEN SQUARE	STATION TIME (GMT)	YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLES	WAVE OBSERVATIONS			WEA- TER CODE	CLOUD CODES	TYPE	AMT	NOOC STATION NUMBER	
								CRUISE NO.	STATION NUMBER			DIR	HGT	PER	SEA					
318037	GL	710935	043437W	556	13 03	03 060	1968	039	3437	34 00	0	X		X1	6 7				0051	
					WATER	WIND		BARO- METER	AIR TEMP. ORY BULB	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS									
					COLOR CODE	TRANS. (m)	DIR.	SPD OF FORCE	WET BULB	VIS. CODE										
						21	S06	868	-036	-042	7	29								
MESSNGR TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S %	SIGMA-T	SPECIFIC VOLUME ANOMALY-10 ³	Σ Δ O DYN. M. X 10 ³	SOUND VELOCITY	O ₂ ml/l	P04-P ug - 01/l	NM ₃ -N ug - 01/l	NO ₂ -N ug - 01/l	NO ₃ -N ug - 01/l	SiO ₄ -Si ug - 01/l	pH	SCC			
061		STD	0000	-0180	3391	2731	0007714	0000	14394	776								086	808	
061	OBS	0000	-0180	33907	2731		0007728	0008	14395	782								086	808	
061	STD	0010	-0181	3390	2731				14395	782	195									
061	OBS	0010	-0181	33904	2731		0007667	0015	14397	796										
061	STD	0020	-0181	3391	2732				14398	805	196									
061	OBS	0026	-0181	33915	2732				14413	685										
061	STD	0030	-0179	3403	2741	000675*	0023	14401	780											
061	STD	0050	-0173	3446	2776	0003453	0033	14414	678	212								088	805	
061	OBS	0052	-0172	34488	2778				14420	672										
061	STD	0075	-0169	3450	2779	0003143	0041	14426	658											
061	STD	0100	-0166	3451	2780	0003063	0049	14427	655	218								090	804	
061	OBS	0104	-0165	34516	2780				14437	626										
061	STD	0125	-0150	3452	2780	000302	0056	14454	604											
061	OBS	0156	-0118	3454	2781	0002941	0064	14458	600	219								094	801	
061	STD	0200	-0048	3460	2783	0002793	0078	14498	598									102	800	
061	OBS	T0205	-0042	34605	2783			14502	598	230										
061	STD	0250	-0001	3464	2784	0002727	0092	14529	519									103	797	
061	OBS	0259	0004	34643	2784			14533	510	231										
061	STD	0300	0005	3465	2784	0002712	0106	14540	504											
061	OBS	T0312	0005	34647	2784			14542	502	235								102	798	
061	STD	0400	0015	3466	2784	0002680	0133	14561	492									102	796	
061	OBS	0413	0016	34660	2784			14564	491	234										
061	STD	0500	0021	3467	2785	0002657	0159	14581	480									113	797	
061	OBS	T0514	0022	34667	2785			14584	479	235										
061	STD	0600	0023	3467	2785	0002648	0186	14598	484											
061	OBS	0615	0023	34669	2785			14601	485	236								114	796	
061	STD	0700	0025	3467	2785	0002655	0212	14616	488											
061	OBS	0715	0025	34674	2785			14619	489	237									794	
061	STD	0800	0023	3467	2785	0002617	0239	14632	480											
061	OBS	0815	0022	34673	2785			14634	479	236								114	794	
061	STD	0900	0022	3467	2785	0002637	0265	14648	482											
028	OBS	T0987	0016							485	242							113	793	
061	STD	1000	0014	3467	2785	0002576	0291	14661	487											
061	OBS	T1015	0013	34669	2785			14664	489	242								113	792	
028	OBS	T1087	0012	34666	2785			14675	497	246								118	796	
028	STD	1100	0011	3467	2785	000258	0317	14677	497									120	791	
028	STD	1200	0007	3466	2785	0002560	0342	14692	500											
028	OBS	1289	0003	34663	2785			14705	502	251										
028	STD	1300	0003	3466	2785	0002531	0368	14707	502											
028	STD	1400	-0001	3466	2785	000250	0393	14722	505											
028	STD	1500	-0004	3466	2786	0002476	0418	14738	508											
028	OBS	1593	-0007	34660	2786			14752	510	248								120	794	
028	STD	1750	-0012	3466	2786	0002395	0479	14777	517											
028	OBS	1896	-0016	34659	2786			14800	523	254								120	793	
028	STD	2000	-0019	3466	2786	0002314	0538	14816	526											
028	OBS	2199	-0022	34658	2786			14849	532	255								121	793	
028	STD	2500	-0024	3465	2786	0002250	0652	14900	541									121	789	
028	OBS	2505	-0024	34654	2786			14952	548	255								113	796	
028	OBS	2811	-0029	34654	2786	0002144	0762	14984	558											
028	STD	3000	-0031	3465	2786			15003	562	258								115	797	
028	OBS	3119	-0035	34648	2786			15034	564	253								113	795	
028	OBS	3325	-0046	34641	2786			15036	571	253								103	794	
028	OBS	3350	-0051	34636	2786			15040	582	251								102	794	
028	OBS	T3375	-0053	34643	2786			15039	589	248								103	798	
028	OBS	T3402	-0064	34641	2787			15039	596	248								102	798	
028	OBS	T3428	-0074	34639	2787															

REFERENCE CITY CODE	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRAFT INCHES	MARSDEN SQUARE	STATION TIME (GMT)	YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLES	WAVE OBSERVATIONS		WEA- TER CODE	CLOUD CODES TYPE AMT	NODE STATION NUMBER	
								CRUISE NO.	STATION NUMBER			DRL	HGT PER SEA				
318031	GL	71118S	039017W	555	19 03 04 060	1968		041	3895	39	00 01 X	X1	6 7			0054	
					WATER	WIND		AIR TEMP. °C									
					COLOR CODE	TRANS. W.M.	DIR.	SNOW OR FORCE	BARO- METER (mb)	DRY BULB	WET BULB	VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS			
						00	500	921	-031	-033	7	30					
MESSENG ER NR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S %	SIGMA-T	SPECIFIC VOLUME ANOMALY-X10 ⁵	Σ Δ Θ DYN. M. X 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P μg - ml/l	NH ₃ -N μg - ml/l	NO ₂ -N μg - ml/l	NO ₃ -N μg - ml/l	Si O ₄ -Si μg - ml/l	pH	SCC
056		STD	0000	-0178	3356	2703	0010386	0000	14390	791						079	810
056	08S	0000	-0178	33560	2703				14390	791	182						
056		STD	0010	-0179	3355	2702	0010445	0010	14391	792							
056	08S	0010	-0179	33551	2702				14391	792	177						
056		STD	0020	-0168	3365	2710	0009702	0020	14399	782							
056	08S	0025	-0164	33732	2717				14403	773	198						
056		STD	0030	-0165	3392	2732	0007630	0029	14406	755							
056		STD	0050	-0168	3448	2777	0003314	0040	14416	695							
056	08S	0051	-0168	34500	2779				14416	693	220						
056		STD	0075	-0169	3451	2779	0003096	0048	14420	664							
056		STD	0100	-0171	3451	2780	0003032	0056	14423	638							
056	08S	0102	-0171	34512	2780				14424	636	242						
056		STD	0125	-0156	3452	2780	0003002	0063	14435	620							
056		STD	0150	-0134	3454	2781	0002909	0071	14449	601							
056	08S	0153	-0131	34544	2781				14451	598	238						
056		STD	0200	-0070	3459	2783	0002767	0085	14488	553							
056	08S	0205	-0064	34592	2783				14492	548	254						
056		STD	0250	-0012	3463	2783	0002742	0099	14524	507							
056	08S	0256	-0008	34637	2784				14527	504	249						
056		STD	0300	-0007	3464	2784	0002690	0112	14534	503							
056	08S	T0307	-0006	34640	2784				14536	503	248						
056		STD	0400	0011	3465	2784	0002716	0139	14559	493							
056	08S	0409	0012	34656	2784				14562	492	258						
056		STD	0500	0021	3466	2784	0002703	0166	14581	486							
056	08S	T0513	0022	34663	2784				14583	485	256						
056		STD	0600	0022	3467	2785	0002642	0193	14598	483							
056	08S	0611	0022	34670	2785				14600	483	255						
056		STD	0700	0020	3467	2785	0002623	0219	14614	485							
056	08S	T0718	0020	34667	2785				14617	485	263						
056		STD	0800	0017	3467	2785	0002616	0246	14629	479							
056	08S	T0806	0017	34668	2785				14630	478	257						
056		STD	0900	0015	3467	2785	0002599	0272	14645	484							
056		STD	1000	0010	3467	2785	0002567	0298	14660	490							
056	08S	T1009	0009	34667	2785				14661	491	263						
023	08S	1032	0007	34666	2785				14664	498	267						
023		STD	1100	0005	3467	2785	0002533	0323	14674	499							
023	08S	1134	0004	34650	27840				500	275							
023		STD	1200	0002	3467	2786	0002505	0348	14690	503							
023		STD	1300	-0001	3467	2786	0002476	0373	14705	508							
023	08S	1339	-0002	34640	27840				510	258							
023		STD	1400	-0004	3467	2786	0002445	0398	14721	513							
023		STD	1500	-0007	3467	2786	0002406	0422	14736	517							
023	08S	1647	-0011	34630	27830				521	265							
023		STD	1750	-0012	3467	2786	0002343	0481	14777	522							
023	08S	1954	-0014	34667	2787				14811	524	262						
023		STD	2000	-0015	3467	2786	0002302	0539	14818	525							
023	08S	2259	-0021	34662	2786				14860	532	267						
023		STD	2500	-0026	3466	2786	0002220	0652	14899	538							
023	08S	T2552	-0027	34653	2786				14908	539	272						
023	08S	2870	-0027	34658	2786				14963	537	260						
023		STD	3000	-0028	3466	2786	0002122	0761	14985	543							
023	08S	3176	-0030	34659	2787				15015	549	252						
023	08S	T3482	-0034	34650	2786				15067	557	250						
023	08S	3790	-0044	34638	2786				15117	560	256						
023	08S	3815	-0047	34637	2786				15120	562	267						
023	08S	3841	-0048	34634	2785				15124	566	254						
023	08S	T3868	-0054	34624	2785				15126	566	272						
023	08S	T3890	-0068	34608	2784				15124	573	267						

REFERENCE CITY CODE	SNIP NO.	LATITUDE ° 1/10	LONGITUDE ° 1/10	DEPT. MOCN	MARSOEN SQUARE	STATION MO	TIME DAY	YEAR	ORIGINATOR'S CBUISE HO.		DEPTH TO BOTTOM	MAX. DEPTH OF SMPL'S	WAVE OBSERVATIONS		WEA- THER CODE	CLOUD CODES TYPE AMT	NOOC STATION NUMBER	
									STATION NUMBER	CBUISE HO.			OBSR. NGT PER SEA	X1	6	7		
318037	GL	702155	037448W	555 07	03 04	180	1968	042	4023	40	00	0 X	X1	6	7		0055	
									WATER	WIND		AIR TEMP. °C						
					COLOR CODE	TRANS. UNI	OIR.	SPEED OR FORCE	BARO- METER GMBH	DRY BULB	WET BULB	VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS				
					08	S07	928	-025	-036	7	31							
MESSENG TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTN (m)	T °C	S %	SIGMA-T	SPECIFIC VOLUME ANOMALY -10 ³	Σ Δ O DYN. M. x 10 ³	SOUND VELOCITY	O ₂ ml/l	PO- μg - σ/l	NM ₃ -N μg - σ/l	NO ₂ -N μg - σ/l	NO ₃ -N μg - σ/l	SiO ₂ -Si μg - σ/l	pH	SCC	
193	STD	0000	-0144	3365	2709	0009806	0000	14407	808							069	809	
193	OBS	0000	-0144	33646	2709	0009823	0010	14409	809									
193	STD	0010	-0144	3364	2709	0009823	0010	14409	809							069	814	
193	OBS	0010	-0144	33643	2709	0009568	0020	14413	808									
193	STD	0020	-0140	3388	2711	0009568	0020	14416	807	162						071	809	
193	OBS	0026	-0137	33697	2713	0008069	0028	14415	777									
193	STD	0030	-0144	3387	2727	0008069	0028	14415	777									
193	STD	0050	-0169	3446	2776	0003464	0040	14415	672									
193	OBS	0052	-0171	34497	2779	0003069	0048	14418	643							095	795	
193	STD	0075	-0174	3451	2780	0003069	0048	14418	641	226						097	798	
193	OBS	0078	-0174	34509	2780	0003050	0056	14424	640									
193	STD	0100	-0170	3451	2780	0003050	0056	14425	639	230						099	795	
193	OBS	0104	-0168	34516	2780	0002954	0063	14439	616									
193	STD	0125	-0147	3453	2781	0002954	0063	14456	591							100	792	
193	OBS	0155	-0113	34550	2781	0002910	0071	14460	586	235								
193	STD	0200	-0051	3460	2783	0002779	0085	14497	549							100	784	
193	OBS	0207	-0044	34605	2783	0002777	0099	14502	544	240								
193	STD	0250	-0021	3462	2783	0002719	0112	14537	501									
193	STD	0300	-0002	3464	2784	0002719	0112	14540	498	244						100	779	
193	OBS	T0310	0001	34642	2784	0002716	0139	14559	496									
193	STD	0400	0011	3465	2784	0002716	0139	14562	496	241						100	786	
193	OBS	0411	0012	34652	2784	0002709	0167	14581	490									
193	STD	0500	0022	3466	2784	0002665	0193	14600	480									
193	OBS	T0512	0023	34661	2784	0002644	0220	14602	479	245						110	782	
193	STD	0600	0027	3467	2785	0002636	0246	14616	478									
193	OBS	0612	0027	34671	2785	0002636	0246	14619	478	246						115	783	
193	STD	0700	0025	3467	2785	0002644	0220	14632	480									
193	OBS	0714	0025	34672	2785	0002668	0246	14634	485	250						116	790	
193	STD	0800	0022	3467	2785	0002636	0246	14643	529	240								
170	OBS	T0815	0021	34668	2785	0002547	0272	14657	515	236						119	794	
170	OBS	T0884	0017	34677	2786	0002547	0272	14661	500									
170	STD	0900	0016	3468	2786	0002547	0272	14663	491	242								
170	OBS	T0979	0013	34672	2786	0002568	0298	14676	508									
193	OBS	T1015	0013	34666	2785	0002557	0324	14690	521	236								
170	OBS	1189	0006	34668	2786	0002523	0349	14691	521									
170	STD	1200	0006	3467	2786	0002501	0374	14707	525									
170	STD	1300	0002	3467	2786	0002485	0399	14722	528									
170	OBS	T1477	-0003	34662	2786	0002469	0424	14734	531	243						120	792	
170	STD	1500	-0004	3466	2786	0002469	0424	14738	532									
170	STD	1750	-0010	3466	2786	0002406	0485	14777	544									
170	OBS	1789	-0011	34661	2786	0002336	0544	14784	545	240								
170	STD	2000	-0016	3466	2786	0002336	0544	14818	547									
170	OBS	2089	-0018	34657	2786	0002239	0658	14832	550	245								
170	OBS	2389	-0023	34654	2786	0002239	0658	14881	566	234								
170	STD	2500	-0025	3465	2786	0002239	0658	14900	567									
170	OBS	2689	-0028	34653	2786	0002165	0768	14931	569	243								
170	OBS	T2993	-0028	34652	2786	0002165	0768	14984	555	264								
170	STD	3000	-0028	3465	2786	0002165	0768	14985	555									
170	OBS	3289	-0029	34654	2786			15035	557	254								
170	OBS	3589	-0033	34652	2786			15087	561	250								
170	OBS	3889	-0038	34644	2786			15137	562	250								
170	OBS	3914	-0040	34646	2786			15141	566	249								
170	OBS	3939	-0039	34643	2786			15146	563	244								
170	OBS	T3986	-0042	34648	2786			15153	566	246								
170	STD	4000	-0042	3464	2786			15155	563									
170	OBS	T4013	-0042	34639	2786			15158	558	246								

REFERENCE CITY CODE	SHIP ID. NO.	CDDE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DEPTH NODE	MARDEN SQUARE	STATION TIME (GMT)	YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLE'S	WAVE OBSERVATIONS			WEA- TER CDDE	CLOUD CDDE	TYPE	AMT		NODC STATION NUMBER
									CRUISE NO.	STATION NUMBER			DIA.	HGT PER SEA							
318037	GL	703075	040567W	556	00	03	06	060	1968	045	3877	20	00	0	X	X1	0	3		0059	
WATER																					
WIND																					
					COLOR CODE	TRANS. (mi)	DIR.	SPEED OR FORCE	BARO- METER (mb)	AIR TEMP. °C	DRY BULB	WET BULB	VIS. CDDE	ND. OBS. DEPTHS	SPECIAL OBSERVATIONS						
					DT	SD	05	509	904	-019	-024	6	31								
MESSENG HR 1/10	CAST NO.	CAST TYPE	DEPTH (m)	T °C	S %	SIGMA-T	SPECIFIC VOLUME ANOMALY-10 ³	Σ Δ O DIM. M. X 10 ³		SOUND VELOCITY	O ₂ ml/l	PO ₄ -P µg - at/l	NH ₃ -N µg - at/l	NO ₂ -N µg - at/l	ND ₃ -N µg - at/l	SiO ₄ -Si µg - at/l	pH	SC			
068	STD	0000	-0167	3352	2700	001071	0000	14395													
	OBS	0000	-0167	33521	2700			14395													
	STD	0010	-0172	3352	2699	001073	0011	14394													
	OBS	0010	-0172	33516	2699			14394													
005	OBS	0018	-0134	33631	2708			14415													
	STD	0020	-0150	3383	2724	0008358	0020	14410													
	OBS	0020	-0150	33831	2724			14410													
	OBS	0025	-0157	34460	2775			14417													
	STD	0030	-0161	3448	2777	0003374	0026	14416													
	OBS	0030	-0161	34476	2777			14416													
	STD	0050	-0176	3449	2779	000320	0033	14412													
	OBS	0050	-0176	34492	2779			14412													
	STD	0075	-0178	3450	2779	0003103	0041	14416													
	OBS	0075	-0178	34502	2779			14416													
	STD	0100	-0164	3452	2781	0002983	0048	14427													
	OBS	0100	-0164	34521	2781			14427													
	STD	0125	-0136	3456	2783	0002753	0055	14445													
	OBS	0125	-0136	34561	2783			14445													
	STD	0150	-0111	3455	2781	0002901	0062	14460													
	OBS	0150	-0111	34552	2781			14460													
	STD	0200	-0051	3459	2782	0002847	0077	14497													
	OBS	0200	-0051	34591	2782			14497													
	STD	0250	-0008	3464	2784	0002719	0091	14526													
	OBS	0250	-0008	34636	2784			14526													
	STD	0300	0001	3464	2784	0002728	0104	14538													
	OBS	0300	0001	34641	2784			14538													
	STD	0400	0017	3465	2783	0002783	0132	14562													
	OBS	0400	0017	34646	2783			14562													
	STD	0500	0026	3466	2784	0002728	0159	14583													
	OBS	0500	0026	34661	2784			14583													
	STD	0600	0025	3467	2784	0002685	0187	14599													
	OBS	0600	0025	34666	2784			14599													
	STD	0700	0021	3467	2785	0002658	0213	14614													
	OBS	0700	0021	34666	2785			14614													
	STD	0800	0019	3467	2785	0002644	0240	14630													
	OBS	0800	0019	34666	2785			14630													
	STD	0900	0015	3467	2785	0002614	0266	14645													
	OBS	0900	0015	34666	2785			14645													
	STD	1000	0011	3466	2785	0002605	0292	14660													
	OBS	1000	0011	34663	2785			14660													
	STD	1100	0007	3466	2785	0002586	0318	14675													
	OBS	1100	0007	34661	2785			14675													
	STD	1200	0004	3466	2785	0002558	0344	14690													
	OBS	1200	0004	34661	2785			14690													
	STD	1300	0001	3466	2785	0002537	0369	14706													
	OBS	1300	0001	34660	2785			14706													
	STD	1400	-0003	3466	2785	0002528	0395	14721													
	OBS	1400	-0003	34656	2785			14721													
	STD	1500	-0006	3465	2785	0002526	0420	14737													
	OBS	1500	-0006	34652	2785			14737													
	STD	1600	-0009	34652	2785			14752													
	OBS	1700	-0011	34652	2785			14768													
	STD	1750	-0013	3465	2785	0002444	0482	14776													
	OBS	1800	-0014	34651	2785			14784													
	OBS	1900	-0016	34651	2785			14800													
	STD	2000	-0018	3465	2785	0002382	0542	14817													
	OBS	2000	-0018	34651	2785			14817													

REFERENCE CITY CODE	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DEPTH INCHES	MARSSEN SQUARE	STATION TIME (GMT)	YEAR	ORIGINATOR'S		DEPTH TD BOTTOM	MAX. DEPTH OF SAMPL'S	WAVE OBSERVATIONS			WEA- TER CODE	CLOUD CODES	NODE STATION NUMBER		
								CRUISE NO.	STATION NUMBER			OIL	HGT	PER	SEA				
318037	GL	693155	042356W	520	92 03 06	150	1968		046	3877	10	00	0	X	X2	7	8	0060	
					WATER	WIND		BARO- METER (mbal)	AIR TEMP. °C	VIS. ORY BULB	NO. OBS. DEPTHS	SPECIAL OBSEV.							
					COLOR CODE	TRANS. INTL	DUR	SPEED OR FORCE											
						04	S09	876	-005	-011	6	15							
MESSNGR TIME HR 1/10		CAST NO.	CARD TYPE	DEPTH (m)	T °C	S %	SIGMA-T	SPECIFIC VOLUME ANOMALY -10°		Z Δ O DYN. M. X 10 ³	SOUND VELOCITY		O ₂ mL/L	PD _{4-P} μg - at/l	NH ₃ - N μg - at/l	NO ₂ - N μg - at/l	NO ₃ - N μg - at/l	SiO _{4-Si} μg - at/l	pH
143		STO	0000	-0152	3394	2733	0007520	0000		14408	817							824	
143		OBS	0000	-0152	33941	2733		0007522	0008	14409	817							824	
		STO	0010	-0152	3394	2733				14409	817							824	
143		OBS	0011	-0152	33939	2733				14409	817							824	
		STO	0020	-0154	3394	2733		0007519	0015	14410	819							824	
143		OBS	0026	-0155	33939	2733				14410	820							824	
		STO	0030	-0156	3406	2743		0006579	0022	14412	788							824	
		STO	0050	-0162	3446	2776		0003483	0032	14418	674							819	
143		OBS	0052	-0163	34487	2778				14419	666							819	
		STO	0075	-0174	3449	2778		0003207	0041	14418	636							819	
143		OBS	0078	-0175	34494	2779				14417	633							819	
		STO	0100	-0161	3451	2780		0003076	0048	14428	614							819	
143		OBS	0104	-0158	34514	2780				14430	611							815	
		STD	0125	-0135	3453	2780		0002993	0056	14445	598							815	
		STD	0150	-0106	3455	2781		0002936	0063	14463	581							811	
143		OBS	T0157	-0098	34560	2782				14468	575							811	
		STD	0200	-0043	3461	2783		0002741	0078	14501	533							811	
143		OBS	0206	-0037	34612	2783				14505	529							811	
		STD	0250	-0020	3463	2784		0002699	0091	14520	517							809	
		STD	0300	-0004	3464	2784		0002707	0105	14536	505							809	
143		OBS	T0306	-0002	34642	2784				14538	504							808	
		STD	0400	0020	3466	2784		0002703	0132	14564	488							808	
143		OBS	0408	0021	34660	2784				14565	487							807	
		STD	0500	0029	3467	2784		0002681	0159	14585	479							807	
143		OBS	T0509	0030	34673	2785				14587	478							807	
		STD	0600	0027	3468	2785		0002633	0185	14601	474							807	
143		OBS	0610	0027	34675	2785				14602	474							807	
		STD	0700	0027	3468	2785		0002633	0212	14617	476							807	
143		OBS	T0711	0027	34675	2785				14619	477							807	
		STD	0800	0024	3467	2785		0002623	0238	14633	483							807	
143		OBS	0810	0024	34674	2785				14634	484							807	
		STD	0900	0021	3467	2785		000260	0264	14648	489							806	
		STD	1000	0017	3467	2785		0002576	0290	14663	494							806	
143		OBS	T1006	0017	34673	2785				14664	494							806	

REFERENCE CITY CODE	SHIP CODE ID. NO.	LATITUDE ° 1/10	LONGITUDE ° 1/10	HOURLY MARSDEN SQUARE	STATION TIME (GMT) 10° 1° MD DAY HRS/10	YEAR 1960	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLES	WAVE OBSERVATIONS	WEA- TER CODE	CLOUD CODES TYPE AMT	NOOC STATION NUMBER
							CRUISE NO.	STATION NUMBER						
318037	GL	675945	038001W	519	78 03 08 060	1968	049	4428	44	00 0 X	X1	6 7		0064

WATER	WIND	AIR TEMP. °C		NO. OBS. DEPTHS		SPECIAL OBSERVATIONS
COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE	DRY BULB	WET BULB	VIS. CODE
36	S10	934	-003 -008	7	30	

MESSNGR TIME HR 1/10	CAST NO.	CARD TYPE	DEPTN (m)	T °C	S %	SIGMA-T	SPECIFIC VOLUME ANOMALY-X10 ⁷	Σ Δ D DYN. M. X 10 ³	SDNUO VELOCITY	O ₂ ml/l	PD _{4-P} μg - σt/l	NH _{3-N} μg - σt/l	NO _{2-N} μg - σt/l	NO _{3-N} μg - σt/l	Si D _{4-Si} μg - σt/l	PO ₄ μM	SCC
		STD	0000	-0114	3381	2721	0008642	0000	14424	806							
073	OBS	0030	-0114	33809	2721				14424	806							
		STD	0010	-0116	3382	2722	0008585	0009	14424	818							
073	OBS	0010	-0116	33815	2722				14424	818							
		STD	0020	-0116	3381	2722	0008603	0017	14426	820							
073	OBS	0026	-0119	33810	2722				14426	821							
		STD	0030	-0127	3395	2733	0007506	0025	14424	794							
		STD	0050	-0153	3442	2772	0003815	0037	14422	695							
073	OBS	0052	-0154	34443	2774				14422	688							
		STD	0075	-0153	3446	2775	0003496	0046	14427	663							
073	OBS	0078	-0152	34466	2776				14428	659							
		STD	0100	-0141	3448	2777	0003368	0054	14437	629							
073	OBS	0103	-0139	34486	2777				14438	625							
		STD	0125	-0110	3451	2778	0003235	0063	14456	601							
		STD	0150	-0081	3454	2779	0003113	0070	14474	576							
073	OBS	T0155	-0076	34542	2779				14477	572							
		STD	0200	-0036	3459	2781	0002966	0086	14504	539							
073	OBS	0205	-0032	34590	2781				14507	536							
		STD	0250	0020	3461	2780	0003097	0101	14538	502							
		STD	0300	0053	3463	2780	0003157	0116	14562	479							
073	OBS	T0305	0055							478							
		STD	0400	0041	3467	2783	000279	0146	14573	484							
073	OBS	0406	0040	34667	2784				14574	484							
		STD	0500	0045	3468	2784	0002722	0174	14592	473							
073	OBS	T0511	0046	34680	2784				14594	472							
		STD	0600	0047	3468	2784	000271	0201	14610	471							
073	OBS	0606	0047	34683	2784				14611	471							
		STD	0700	0043	3468	2784	0002711	0228	14624	472							
073	OBS	T0711	0042	34680	2785				14626	472							
073	OBS	T0799	0038	34678	2785				14639	487							
		STD	0800	0038	3468	2785	0002695	0255	14639	487							
		STD	0900	0036	3468	2785	0002688	0282	14654	474							
		STD	1000	0033	3468	2785	0002681	0309	14670	461							
024	OBS	T1004	0033							460							
073	OBS	T1005	0033							478							
024	OBS	1064	0029	34675	2785				14679	480							
		STD	1100	0028	3468	2785	0002650	0336	14685	481							
		STD	1200	0025	3468	2785	0002627	0362	14700	485							
		STD	1300	0021	3468	2785	0002587	0388	14715	490							
024	OBS	1366	0018	34676	2786				14725	494							
		STD	1400	0016	3468	2786	0002551	0414	14730	498							
		STD	1500	0011	3467	2786	000252	0439	14745	507							
024	OBS	T1669	0003	34669	2786				14770	518							
		STD	1750	-0000	3467	2786	0002455	0501	14782	519							
024	OBS	1969	-0038	34663	2786				14816	522							
		STD	2000	-0009	3466	2786	0002405	0562	14821	523							
024	OBS	2269	-0015	34659	2786				14864	532							
		STD	2500	-0020	3466	2786	0002279	0679	14902	543							
024	OBS	T2569	-0021	34655	2786				14913	546							
024	OBS	2869	-0024	34659	2786				14964	555							
		STD	3000	-0027	3466	2786	0002148	0790	14986	557							
024	OBS	3169	-0029	34652	2786				15014	559							
040	OBS	T3460	-0031	34653	2786				15065	564							
040	OBS	3774	-0032	34650	2786				15120	566							
		STD	4000	-0034	3465	2786	0001975	0996	15159	567							
040	OBS	4075	-0035	34652	2786				15172	568							
040	OBS	4326	-0037	34652	2786				15216	570							
040	OBS	T4380	-0038	34650	2786				15225	571							
040	OBS	T4401	-0041	34649	2786				15228	568							

REFERENCE		SHIP CODE	LATITUDE * 1/10	LONGITUDE * 1/10	DIFF. NOON 10° 1'	MARSSEN SQUARE	STATION TIME (GMT)	YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLES	WAVE OBSERVATIONS		WEA- TER CODE	CLOUD CODES	TYPE	AMT	NODC STATION NUMBER
CTRY CODE	ID. NO.								CRUISE NO.	STATION NUMBER			DIR.	HGT PER SEA					
318031	GL	673925	040018W	520	70 03	08 170	1968	050			4279	10 00	01X	X1	6 7				0066

WATER		WIND		BARO-		AIR TEMP. °C		VIS. CODE		NO. OBS. DEPTHS		SPECIAL OBSERVATIONS	
COLOR CODE	TRANS. (m)	OIR.	SPEED OF FORCE	METER (mba)	DRY BULB	WET BULB							
		08	511	920	-028	-038	6	15					

MESSNGR TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S %	SIGMA-T	SPECIFIC VOLUME ANOMALY- $\times 10^3$	$\Sigma \Delta \sigma$ DYN. M. $\times 10^3$	SOUND VELOCITY	O2 m/l	PO4-P $\mu g - \text{at/l}$	NH3-N $\mu g - \text{at/l}$	NO2-N $\mu g - \text{at/l}$	NO3-N $\mu g - \text{at/l}$	SiO4-Si $\mu g - \text{at/l}$	PM	SC
		STD	0000	-0142	3411	2747	0006228	0000	14415	795							
166	OBS	0000	-0142	34113	2747				14415	795							
	STD	0010	-0142	3411	2747		0006230	0006	14416	802							
166	OBS	0010	-0142	34112	2747				14416	802							
	STD	0020	-0144	3412	2747		0006196	0012	14417	808							
166	OBS	0025	-0146	34117	2747				14417	811							
	STD	0030	-0151	3420	2754	0005518	0018	14417	776								
166	OBS	0050	-0167	3449	2778	0003231	0027	14417	681								
	STD	0075	-0172	3452	2781	0002982	0035	14419	667								
166	OBS	0075	-0172	3499P	2819P					667							
	STD	0100	-0168	3454	2782	0002826	0042	14425	642								
166	OBS	0100	-0168	3351P	2699P					642							
	STD	0125	-0117	3456	2782	0002827	0049	14453	596								
166	OBS	0150	-0069	3458	2782	0002845	0056	14480	554								
	STD	0200	0019	3462	2781	0002993	0071	14529	484								
166	OBS	T0204	0023							480							
	STD	0250	0022	3464	2782	0002856	0085	14539	482								
166	OBS	T0299	0020	34663	2784				14547	483							
	STD	0300	0020	3466	2784	0002674	0099	14547	483								
166	OBS	0400	0040	3468	2785	0002679	0126	14573	471								
	STD	0401	0040	34679	2785				14573	471							
166	OBS	0500	0040	3469	2785	0002633	0153	14590	468								
	OBS	T0503	0040	34686	2785				14590	468							
166	OBS	0600	0038	3469	2785	0002617	0179	14606	466								
	OBS	0601	0038	34687	2785				14606	466							
166	OBS	0700	0039	3469	2785	0002637	0205	14623	468								
	OBS	T0700	0039	34686	2785				14623	468							
166	OBS	0800	0033	3468	2785	0002643	0232	14637	467								
	STD	0802	0033	34679	2785				14637	467							
166	OBS	0900	0028	3468	2785	0002615	0258	14651	472								
	STD	1000	0025	3468	2785	0002594	0284	14667	482								
166	OBS	T1000	0025	34679	2785				14667	482							

REFERENCE CITY CODE	SHIP CDDE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DEPT INCHES	MARDEN SQUARE	STATION TIME HR. 1/10	YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLE'S	WAVE OBSERVATIONS			WEA- TER CDDE	CLOUD CODES TYPE AMT		NODC STATION NUMBER
								CRUISE NO.	STATION NUMBER			DIR.	HGT PER SEA	DIR.	HGT PER SEA			
318037	GL	673155	044128W	520	74 03 09 030	1968	051	3713	10 00 0 X	X7	7 8	0067						

WATER COLOR CODE	TRANS. UNI.	WIND DIR.	SPEED OR FORCE	BARO- METER (mb)	AIR TEMP. °C		NO. OBS. DEPTHS	SPECIAL OBSERVATIONS
					DRY BULR	WET BULR		
		04	S18	830	-018	-023	6 15	

MESSNGR TIME OF HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S %	SIGMA-T	SPECIFIC VOLUME AND MALT-X10 ⁷	Σ Δ D DTH. M. X 10 ³	SOND VELOCITY	O ₂ ml/l	PD _{4-P} μg - dl/l	NH _{3-N} μg - dl/l	NO _{2-N} μg - dl/l	NO _{3-N} μg - dl/l	Si D _{4-Si} μg - dl/l	pH	SCC
		STD	0000	-0181													
040	OBS	0000	-0181														
040	OBS	0009		33899												747	
	STD	0010	-0181	3390	2731	0007765					14395	747					
	STD	0020	-0182	3390	2731	0007735					14396	748					
040	OBS	0024	-0182	33903	2731						14397	748					
	STD	0030	-0173	3406	2743	0006535					14404	724					
040	OBS	0049	-0158	34389	2770						14419	672					
	STD	0050	-0159	3439	2770	0004028					14419	671					
040	OBS	0073	-0168	34471	2777						14420	656					
	STD	0075	-0168	3447	2777	000336*					14420	656					
040	OBS	0097	-0168	34483	2778						14424	651					
	STD	0100	-0167	3449	2778	0003242					14425	649					
	STD	0125	-0149	3451	2779	0003100					14438	629					
040	OBS	0145	-0126	34529	2780						14452	606					
	STD	0150	-0115	3454	2781	0002978					14458	596					
040	OBS	T0194	-0038	34608	2783						14502	524					
	STD	0200	-0033	3461	2783	0002791					14506	521					
	STD	0250	-0001	3464	2784	0002727					14529	498					
040	OBS	0292	0016	34660	2784						14544	486					
	STD	0300	0017	3466	2784	0002675					14545	486					
040	OBS	T0390	0022	34666	2785						14563	486					
	STD	0400	0023	3467	2785	0002639					14565	484					
040	OBS	T0492	0032	34675	2785						14585	475					
	STD	0500	0032	3468	2785	0002663					14586	475					
040	OBS	0588	0034	34680	2785						14602	478					
	STD	0600	0034	3468	2785	0002642					14604	477					
040	OBS	T0683	0032	34680	2785						14617	475					
	STD	0700	0031	3468	2785	0002624					14619	476					
040	OBS	T0796	0026	34676	2785						14633	483					
	STD	0800	0026	3468	2785	0002621					14633	483					
	STD	0900	0022	3467	2785	0002615					14648	485					
040	OBS	T0992	0019	34671	2785						14662	486					

REFERENCE CTRY. CODE	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DEPTH IN FEET	MARSDEN SQUARE	STATION TIME 10° 1' MO DAY HR. 1/10	YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLES	WAVE OBSERVATIONS	WEA- TER CODE	CLOUD CODES	TYPE	AMT	NOOC STATION NUMBER
								CRUISE NO.	STATION NUMBER								
348037	GL	672200	047223W	520	77 03 09 240	1968	052			3839	38	00 0 X	X 7	7 8			0069

MESSAGE TIME HR 1/10	CAST NO.	CARO TYPE	DEPTH (m)	WATER		WIND		BARO-		AIR TEMP. °C		NO. OBS. DEPTHS	SPECIAL OBSERVATIONS	DIR.	HGT PER SEA	WEA- TER CODE	CLOUD CODES	TYPE	AMT	NOOC STATION NUMBER
				COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE	METER (mb)	DRY BULB	WET BULB	VIS. CODE									
				00	500	805	-029	-032	4	30										
		STD	0000	-0183	3402	2740	0006877	0000	14394	722										
232	OBS	0000	-0183	34015	2740				14394	722								796		
	STD	0010	-0184	3401	2740	0006899	0007	14395	731											
232	OBS	0010	-0184	34011	2740				14395	731										
	STD	0020	-0184	3402	2740	0006838	0014	14397	734											
232	OBS	0025	-0184	34021	2741				14398	736								797		
	STD	0030	-0181	3408	2745	0006362	0020	14401	729											
	STD	0050	-0171	3428	2761	000484*	0032	14412	697											
232	OBS	0051	-0170	34292	2762				14412	695								795		
	STD	0075	-0163	3447	2776	000339	0042	14422	651											
232	OBS	0076	-0162	34472	2777				14423	649								794		
	STD	0100	-0142	3451	2779	0003135	0050	14437	611											
232	OBS	0102	-0140	34514	2779				14438	608								794		
	STD	0125	-0097	3455	2781	000298	0058	14463	576											
	STD	0150	-0057	3459	2782	0002837	0065	14486	545											
232	OBS	0153	-0053	34595	2783				14488	542								788		
	STD	0200	0002	3464	2784	0002746	0079	14522	493											
232	OBS	0203	0005	34646	2784				14524	491								785		
	STD	0250	0016	3466	2784	0002672	0092	14537	491											
	STD	0300	0023	3466	2784	0002714	0106	14548	491											
232	OBS	T0306	0024	34665	2784				14550	491								784		
	STD	0400	0027	3467	2785	000267	0133	14567	487											
232	OBS	0406	0027	34669	2785				14568	487								782		
	STD	0500	0034	3467	2784	000271	0160	14587	477											
232	OBS	T0508	0034	34675	2785				14588	476								781		
	STD	0600	0037	3468	2785	000266	0187	14605	475											
232	OBS	0608	0037	34683	2785				14606	475								781		
	STD	0700	0031	3468	2785	0002626	0213	14619	475											
232	OBS	T0703	0031	34680	2785				14619	475								781		
	STD	0800	0029	3468	2785	0002607	0239	14635	490											
232	OBS	T0809	0029	34681	2785				14636	491								779		
	STD	0900	0025	3468	2786	0002585	0265	14650	480											
179	OBS	T0913	0024	34676	2785				14651	479								784		
	STD	1000	0021	3468	2786	0002565	0291	14665	484											
232	OBS	T1009	0021	34679	2786				14666	484								780		
179	OBS	1014	0021	34674	2785				14667	494								784		
	STD	1100	0017	3467	2785	0002598	0317	14680	495											
	STD	1200	0013	3467	2785	0002565	0343	14695	497											
179	OBS	1268	0011	34666	2785				14705	499								782		
	STD	1300	0010	3467	2785	0002568	0368	14710	501											
	STD	1400	0007	3467	2785	0002547	0394	14726	507											
179	OBS	T1521	0003	34664	2785	0002525	0419	14741	513									783		
	STD	1750	-0008	3466	2786	0002410	0481	14778	526											
179	OBS	1828	-0011	34663	2786				14790	529										
	STD	2000	-0012	3466	2786	0002353	0540	14819	534											
179	OBS	2134	-0014	34662	2786				14841	537								783		
179	OBS	2442	-0022	34657	2786				14891	544								782		
	STD	2500	-0022	3466	2786	0002250	0655	14901	545											
179	OBS	2749	-0025	34654	2786	0002165	0766	14943	551									781		
	STD	3000	-0028	3465	2786				14985	557										
179	OBS	T3062	-0029	34651	2786				14995	558								780		
179	OBS	3364	-0034	34646	2786				15046	564								780		
179	OBS	T3670	-0043	34640	2786				15096	577								779		
179	OBS	3751	-0052	34632	2785				15106	579								778		
179	OBS	T3779	-0058	34630	2786				15109	585								781		
179	OBS	3802	-0063	34635	2786				15111	594								781		
179	OBS	T3828	-0065	34643	2787				15114	599								785		

REFERENCE CTRY CODE	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DEPTH METERS	MARSDEN SQUARE	STATION TIME IGMTI	YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLES	WAVE OBSERVATIONS		WEA- TER CODE	CLOUD CODES	NOOC STATION NUMBER	
								CRUISE NO.	STATION NUMBER			DIR.	HGT	PER	SEA		
								10°	1°			MO	OAY	HR, 1/10			
318037	GL	67220S	047223W	520	77 03	10 060	1968		052	3768	10	00	0	X	X7	0 3	0070

WATER	WIND	AIR TEMP. °C							
COLOR CODE	TRANSL. (m)	DIR.	SPEED OR FORCE	BARO-METER (mba)	DRY BULB	WET BULB	VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS

DT	SD	00	500	794	-032	-034	5	20	
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MESSNGR HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S %	SIGMA-T	SPECIFIC VOLUME ANOMALY-X10 ⁷	Ξ Δ D DYN. M. X 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P µg - ml/l	NH ₃ -N µg - ml/l	NO ₂ -N µg - ml/l	NO ₃ -N µg - ml/l	SiO ₄ -Si µg - ml/l	pH	SCC
048		STD	0000	-0185	3403	2741	0006796	0000	14393								
		OBS	0000	-0185	34025	2741			14393								
		STD	0010	-0185	3403	2741	0006789	0007	14395								
		OBS	0010	-0185	34025	2741			14395								
		STD	0020	-0185	3403	2741	0006782	0014	14396								
		OBS	0020	-0185	34025	2741			14396								
		OBS	0025	-0183	34026	2741			14398								
		STD	0030	-0175	3408	2745	0006407	0020	14404								
		OBS	0030	-0175	34076	2745			14404								
		STD	0050	-0165	3447	2776	0003429	0030	14417								
		OBS	0050	-0165	34466	2776			14417								
		STD	0075	-0150	3450	2779	000319*	0038	14429								
		OBS	0075	-0150	34501	2779			14429								
		STD	0100	-0115	3454	2780	0003028	0046	14450								
		OBS	0100	-0115	34536	2780			14450								
		STD	0125	-0080	3457	2781	0002926	0053	14471								
		OBS	0125	-0080	34566	2781			14471								
		STD	0150	-0021	3463	2784	0002736	0061	14503								
		OBS	0150	-0021	34626	2784			14503								
		STD	0200	0016	3466	2784	000271	0074	14529								
		OBS	0200	0016	34655	2784			14529								
		STD	0250	0019	3466	2784	000272	0088	14538								
		OBS	0250	0019	34656	2784			14538								
		STD	0300	0025	3467	2784	0002688	0101	14549								
		OBS	0300	0025	34665	2784			14549								
		STD	0400	0030	3467	2785	0002676	0128	14568								
		OBS	0400	0030	34671	2785			14568								
		STD	0500	0034	3468	2785	0002638	0155	14587								
		OBS	0500	0034	34680	2785			14587								
		STD	0600	0034	3468	2785	0002634	0181	14604								
		OBS	0600	0034	34681	2785			14604								
		STD	0700	0031	3468	2785	0002617	0207	14619								
		OBS	0700	0031	34681	2785			14619								
		STD	0800	0028	3468	2785	0002598	0233	14634								
		OBS	0800	0028	34681	2785			14634								
		STD	0900	0024	3468	2786	0002577	0259	14649								
		OBS	0900	0024	34680	2786			14649								
		STD	1000	0020	3468	2786	0002548	0285	14664								
		OBS	1000	0020	34680	2786			14664								

REFERENCE CIVY CODE	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DUST INCHES	MARDEN SQUARE	STATION TIME (GMT)	YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SMPL'S	WAVE OBSERVATIONS	WEA- TER CODE	CLOUD CODES	NOOC STATION NUMBER
								CRUISE NO.	STATION NUMBER						
318037	GL	671355	049577W		520	79 03 11 060	1968	054	3603	20 00 0 X	X1 0 3				0073

MESSANGER TIME OF CAST HR. 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S %	SIGMA-T	SPECIFIC VOLUME ANOMALY - 210° X 10 ³	Σ Δ DYN. M. X 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P µg - dl/l	NH ₃ -N µg - dl/l	NO ₂ -N µg - dl/l	NO ₃ -N µg - dl/l	SiO ₄ -Si µg - dl/l	pH	SEC
067	STD	0000	-0182	3397	2736	0007233	0000	14394									
	OBS	0000	-0182	33969	2736			14394									
	OBS	0009	-0181	34058	2743			14397									
	STD	0010	-0179	3406	2743	0006549	0007	14398									
	OBS	0010	-0179	34058	2743			14398									
	STD	0020	-0170	3421	2756	0005374	0013	14406									
	OBS	0020	-0170	34213	2756			14406									
	OBS	0025	-0152	34407	2771			14418									
	STD	0030	-0147	3449	2777	0003321	0017	14423									
	OBS	0030	-0147	34488	2777			14423									
	STD	0050	-0125	3443	2772	0003802	0024	14435									
	OBS	0050	-0125	34433	2772			14435									
	STD	0075	-0108	3449	2776	0003438	0033	14448									
	OBS	0075	-0108	34487	2776			14448									
	STD	0100	-0067	3453	2778	0003240	0042	14472									
	OBS	0100	-0067	34533	2778			14472									
	STD	0125	-0033	3460	2782	0002893	0049	14493									
	OBS	0125	-0033	34598	2782			14493									
	STD	0150	-0005	3463	2783	0002803	0057	14510									
	OBS	0150	-0005	34628	2783			14510									
	STD	0200	0027	3465	2783	0002789	0070	14534									
	OBS	0200	0027	34653	2783			14534									
	STD	0250	0028	3466	2784	0002720	0084	14542									
	OBS	0250	0028	34663	2784			14542									
	STD	0300	0027	3466	2784	0002715	0098	14550									
	OBS	0300	0027	34663	2784			14550									
	STD	0400	0031	3467	2784	0002697	0125	14569									
	OBS	0400	0031	34669	2784			14569									
	STD	0500	0036	3467	2784	0002704	0152	14588									
	OBS	0500	0036	34673	2784			14588									
	STD	0600	0039	3468	2785	0002654	0179	14606									
	OBS	0600	0039	34683	2785			14606									
	STD	0700	0035	3468	2785	0002631	0205	14621									
	OBS	0700	0035	34683	2785			14621									
	STD	0800	0031	3468	2785	0002605	0231	14636									
	OBS	0800	0031	34683	2785			14636									
	STD	0900	0027	3468	2786	0002578	0257	14651									
	OBS	0900	0027	34683	2786			14651									
	STD	1000	0023	3468	2786	0002549	0283	14666									
	OBS	1000	0023	34683	2786			14666									
	STD	1100	0018	34681	2786	0002524	0308	14680									
	OBS	1100	0018	34681	2786			14680									
	STD	1200	0014	3468	2786	0002506	0333	14695									
	OBS	1200	0014	34679	2786			14695									
	STD	1300	0009	3468	2786	0002470	0358	14710									
	OBS	1300	0009	34678	2786			14710									
	STD	1400	0006	3468	2786	0002449	0383	14725									
	OBS	1400	0006	34677	2786			14725									
	STD	1500	0003	3467	2786	0002449	0407	14741									
	OBS	1500	0003	34673	2786			14741									
	STD	1600	-0002	34673	2786			14756									
	OBS	1700	-0005	34673	2787			14771									
	STD	1750	-0006	3467	2787	0002355	0467	14779									
	OBS	1800	-0007	34672	2787			14787									
	OBS	1900	-0012	34671	2787			14802									
	STD	2000	-0014	3467	2787	0002275	0525	14819									
	OBS	2000	-0014	34671	2787			14819									

REFERENCE CITY CODE	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DEPTH IN FEET	MARSØEN SQUARE	STATION TIME (GMT)	YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPL'S	WAVE OBSERVATIONS			WEA- TER CODE	CLOUD CODES	TYPE AMT	NOAA STATION NUMBER						
								CRUISE NO.	STATION NUMBER			DIR. HGT PER SEA												
												DIR.	HGT	PER SEA										
318037	GL	66330S	050040W	521	60 03 11 180	1968	055			3338	10 00 0 X	X1	7	7				0074						

COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE	BARO- METER (mba)	AIR TEMP., °C	VIS. COEF.	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS									
								DRY BULB	WET BULB								
					13	S07	792	-029	-033	6	15						

MESSANGER TIME OF MR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S %	SIGMA-T	SPECIFIC VOLUME ANOMALY-X10 ³	Σ Δ D DYN. M. X 10 ³	SOUND VELOCITY	D ₂ ml/l	PD _{4-P} μg - e/l	NH _{3-N} μg - e/l	NO _{2-N} μg - e/l	NO _{3-S} μg - e/l	SiO _{2-S} μg - e/l	pH	Si C/C
		STD	0000	-0180	3406	2744	0006523	0000	14396	695							
166	OBS	0000	-0180	34062	2744				14396	695							805
	STD	0010	-0184	3407	2744		000646	0006	14396	704							804
166	OBS	0010	-0184	34068	2744				14396	704							803
	STD	0020	-0181	3414	2750		0005908	0013	14400	701							801
166	OBS	0026	-0178	34186	2754				14403	695							801
	STD	0030	-0173	3424	2758		0005153	0018	14407	683							799
	STD	0050	-0153	3442	2772		0003815	0027	14422	636							797
166	OBS	0052	-0152	34432	2773				14423	633							795
	STD	0075	-0148	3447	2776		0003434	0036	14429	616							794
166	OBS	0078	-0146	34475	2776				14431	614							793
	STD	0100	-0124	3451	2778		0003195	0045	14445	606							792
166	OBS	0104	-0119	34516	2779				14448	603							790
	STD	0125	-0073	3456	2781		0003002	0052	14474	565							789
	STD	0150	-0030	3461	2783		0002813	0060	14499	529							788
166	OBS	T0155	-0023	34613	2783				14503	523							787
	STD	0200	0017	3465	2784		0002754	0073	14529	489							786
166	OBS	0206	0021	34659	2784				14532	486							785
	STD	0250	0028	3467	2785		0002667	0087	14543	481							784
	STD	0300	0034	3467	2784		0002705	0100	14554	476							783
166	OBS	T0307	0035	34675	2785				14555	475							782
	STD	0400	0038	3468	2785		0002665	0127	14572	473							781
166	OBS	0410	0038	34679	2785				14574	473							780
	STD	0500	0042	3468	2785		0002688	0154	14590	469							779
166	OBS	0512	0042	34685	2785				14593	468							778
	STD	0600	0043	3469	2785		0002643	0181	14608	468							777
166	OBS	T0616	0043	34688	2785				14610	468							776
	STD	0700	0039	3469	2785		0002630	0207	14623	470							775
166	OBS	0713	0038	34687	2785				14624	470							774
	STD	0800	0034	3469	2785		0002605	0233	14637	471							773
166	OBS	T0814	0033	34686	2786				14639	471							772
	STD	0900	0029	3468	2786		0002586	0259	14652	476							771
	STD	1000	0024	3468	2786		0002564	0285	14666	487							770
166	OBS	T1014	0023	34682	2786				14668	489							769

REFERENCE CITY CODE	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DATE INDEX	MARSDEN SQUARE	STATION TIME IGMTI	YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLES	WAVE OBSERVATIONS			WEA- TER CODE	CLOUD CODES		NODE STATION NUMBER																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
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318037	GL	662015	050529W	521	60	03	12	060	1968	056	3109	30	00	0	X	X1	0	3	0076																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
<table border="1"> <thead> <tr> <th rowspan="2">MESSAGE TIME HR 1/10</th> <th rowspan="2">CAST NO.</th> <th rowspan="2">CARB TYPE</th> <th rowspan="2">DEPTH (m)</th> <th rowspan="2">T °C</th> <th rowspan="2">S ‰</th> <th rowspan="2">SIGMA-T</th> <th rowspan="2">SPECIFIC VOLUME ANOMALY -210°</th> <th rowspan="2">$\Sigma \Delta \sigma$ DYN. M. x 10³</th> <th rowspan="2">SOUND VELOCITY</th> <th rowspan="2">O₂ ml/l</th> <th rowspan="2">PO₄-P µg - ml/l</th> <th rowspan="2">NH₃-H µg - ml/l</th> <th rowspan="2">NO₂-N µg - ml/l</th> <th rowspan="2">NO₃-N µg - ml/l</th> <th rowspan="2">SiO₂-Si µg - ml/l</th> <th rowspan="2">PH</th> <th rowspan="2">SCC</th> </tr> <tr> <th>WATER COLOR CODE</th> <th>TRANS. (m)</th> <th>DUR</th> <th>SPEED ON FORCE</th> <th>BABO- METER (mbs)</th> <th>ATM TEMP. °C DRY BULB</th> <th>WET BULB</th> <th>VIS. CODE</th> <th>NO. OBS. DEPTHS</th> <th>SPECIAL OBSERVATIONS</th> </tr> </thead> <tbody> <tr> <td>068</td><td>STD</td><td>0000</td><td>-0183</td><td>3397</td><td>2736</td><td>0007238</td><td>0000</td><td>14393</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr> <td></td><td>OBS</td><td>0000</td><td>-0183</td><td>33968</td><td>2736</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr> <td></td><td>STD</td><td>0010</td><td>-0163</td><td>3420</td><td>2754</td><td>0005513</td><td>0006</td><td>14408</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr> <td></td><td>OBS</td><td>0010</td><td>-0163</td><td>34198</td><td>2754</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr> <td></td><td>STD</td><td>0020</td><td>-0163</td><td>3441</td><td>2771</td><td>0003895</td><td>0011</td><td>14412</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr> <td></td><td>OBS</td><td>0020</td><td>-0163</td><td>34408</td><td>2771</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr> <td></td><td>OBS</td><td>0025</td><td>-0161</td><td>34428</td><td>2773</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr> <td></td><td>STD</td><td>0030</td><td>-0159</td><td>3445</td><td>2774</td><td>0003602</td><td>0015</td><td>14416</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr> <td></td><td>OBS</td><td>0030</td><td>-0159</td><td>34447</td><td>2774</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr> <td></td><td>STD</td><td>0050</td><td>-0120</td><td>3452</td><td>2779</td><td>0003168</td><td>0022</td><td>14439</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr> <td></td><td>OBS</td><td>0050</td><td>-0120</td><td>34518</td><td>2779</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr> <td></td><td>STD</td><td>0075</td><td>-0064</td><td>3458</td><td>2782</td><td>0002877</td><td>0029</td><td>14470</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr> 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<td></td><td>OBS</td><td>0125</td><td>0003</td><td>34633</td><td>2783</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr> <td></td><td>STD</td><td>0150</td><td>0017</td><td>3464</td><td>2783</td><td>0002808</td><td>0050</td><td>14521</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr> <td></td><td>OBS</td><td>0150</td><td>0017</td><td>34643</td><td>2783</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr> <td></td><td>STD</td><td>0200</td><td>0025</td><td>3465</td><td>2783</td><td>0002777</td><td>0064</td><td>14533</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr> <td></td><td>OBS</td><td>0200</td><td>0025</td><td>34653</td><td>2783</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr> <td></td><td>STD</td><td>0250</td><td>0032</td><td>3466</td><td>2784</td><td>0002744</td><td>0078</td><td>14544</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr> <td></td><td>OBS</td><td>0250</td><td>0032</td><td>34663</td><td>2784</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr> <td></td><td>STD</td><td>0300</td><td>0033</td><td>3467</td><td>2784</td><td>0002721</td><td>0092</td><td>14553</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr> <td></td><td>OBS</td><td>0300</td><td>0033</td><td>34667</td><td>2784</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr> <td></td><td>STD</td><td>0400</td><td>0038</td><td>3468</td><td>2784</td><td>0002697</td><td>0119</td><td>14572</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr> <td></td><td>OBS</td><td>0400</td><td>0038</td><td>34675</td><td>2784</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr> <td></td><td>STD</td><td>0500</td><td>0041</td><td>3467</td><td>2784</td><td>0002738</td><td>0146</td><td>14590</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr> <td></td><td>OBS</td><td>0500</td><td>0041</td><td>34673</td><td>2784</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr> <td></td><td>STD</td><td>0600</td><td>0036</td><td>3468</td><td>2785</td><td>0002633</td><td>0173</td><td>14605</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr> <td></td><td>OBS</td><td>0600</td><td>0036</td><td>34683</td><td>2785</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr> <td></td><td>STD</td><td>0700</td><td>0033</td><td>3468</td><td>2785</td><td>0002616</td><td>0199</td><td>14620</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr> <td></td><td>OBS</td><td>0700</td><td>0033</td><td>34683</td><td>2785</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr> <td></td><td>STD</td><td>0800</td><td>0028</td><td>3468</td><td>2786</td><td>0002583</td><td>0225</td><td>14634</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr> <td></td><td>OBS</td><td>0800</td><td>0028</td><td>34683</td><td>2786</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr> <td></td><td>STD</td><td>0900</td><td>0024</td><td>3468</td><td>2785</td><td>0002585</td><td>0251</td><td>14649</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr> <td></td><td>OBS</td><td>0900</td><td>0024</td><td>34679</td><td>2785</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr> <td></td><td>STD</td><td>1000</td><td>0017</td><td>3468</td><td>2786</td><td>0002532</td><td>0277</td><td>14663</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr> <td></td><td>OBS</td><td>1000</td><td>0017</td><td>34679</td><td>2786</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr> <td></td><td>STD</td><td>1100</td><td>0013</td><td>3468</td><td>2786</td><td>0002507</td><td>0302</td><td>14678</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr> <td></td><td>OBS</td><td>1100</td><td>0013</td><td>34678</td><td>2786</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr> <td></td><td>STD</td><td>1200</td><td>0008</td><td>3468</td><td>2786</td><td>0002472</td><td>0327</td><td>14692</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr> <td></td><td>OBS</td><td>1200</td><td>0008</td><td>34677</td><td>2786</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr> <td></td><td>STD</td><td>1300</td><td>0004</td><td>3468</td><td>2786</td><td>0002436</td><td>0351</td><td>14708</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr> <td></td><td>OBS</td><td>1300</td><td>0004</td><td>34677</td><td>2786</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr> <td></td><td>STD</td><td>1400</td><td>0000</td><td>3468</td><td>2786</td><td>0002412</td><td>0375</td><td>14723</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr> <td></td><td>OBS</td><td>1400</td><td>0000</td><td>34675</td><td>2786</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr> <td></td><td>STD</td><td>1500</td><td>-0004</td><td>3467</td><td>2786</td><td>0002387</td><td>0399</td><td>14738</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr> <td></td><td>OBS</td><td>1500</td><td>-0004</td><td>34673</td><td>2786</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr> <td></td><td>OBS</td><td>1600</td><td>-0008</td><td>34671</td><td>2787</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr> <td></td><td>OBS</td><td>1700</td><td>-0012</td><td>34670</td><td>2787</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr> <td></td><td>STD</td><td>1750</td><td>-0013</td><td>3467</td><td>2787</td><td>0002312</td><td>0458</td><td>14776</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr> <td></td><td>OBS</td><td>1800</td><td>-0014</td><td>34669</td><td>2787</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr> <td></td><td>OBS</td><td>1900</td><td>-0017</td><td>34669</td><td>2787</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr> <td></td><td>STD</td><td>2000</td><td>-0021</td><td>3467</td><td>2787</td><td>0002221</td><td>0515</td><td>14815</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr> <td></td><td>OBS</td><td>2000</td><td>-0021</td><td>34669</td><td>2787</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr> <td></td><td>OBS</td><td>2100</td><td>-0023</td><td>34668</td><td>2787</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr> <td></td><td>OBS</td><td>2200</td><td>-0025</td><td>34668</td><td>2787</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr> <td></td><td>OBS</td><td>2300</td><td>-0027</td><td>34668</td><td>2787</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr> <td></td><td>OBS</td><td>2400</td><td>-0029</td><td>34668</td><td>2787</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr> <td></td><td>STD</td><td>2500</td><td>-0031</td><td>3457</td><td>2787</td><td>0002071</td><td>0622</td><td>14897</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr> <td></td><td>OBS</td><td>2500</td><td>-0031</td><td>34668</td><td>2787</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr> <td></td><td>OBS</td><td>2600</td><td>-0033</td><td>34668</td><td>2788</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr> <td></td><td>OBS</td><td>2700</td><td>-0034</td><td>34667</td><td>2787</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr> <td></td><td>OBS</td><td>2800</td><td>-0037</td><td>34663</td><td>2787</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr> <td></td><td>OBS</td><td>2900</td><td>-0042</td><td>34658</td><td>2787</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr> <td></td><td>STD</td><td>3000</td><td>-0051</td><td>3465</td><td>2787</td><td>0001884</td><td>0721</td><td>14975</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr> <td></td><td>OBS</td><td>3000</td><td>-0051</td><td>34653</td><td>2787</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> </tbody> </table>	MESSAGE TIME HR 1/10	CAST NO.	CARB TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY -210°	$\Sigma \Delta \sigma$ DYN. M. x 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P µg - ml/l	NH ₃ -H µg - ml/l	NO ₂ -N µg - ml/l	NO ₃ -N µg - ml/l	SiO ₂ -Si µg - ml/l	PH	SCC	WATER COLOR CODE	TRANS. (m)	DUR	SPEED ON FORCE	BABO- METER (mbs)	ATM TEMP. °C DRY BULB	WET BULB	VIS. CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS	068	STD	0000	-0183	3397	2736	0007238	0000	14393												OBS	0000	-0183	33968	2736																STD	0010	-0163	3420	2754	0005513	0006	14408													OBS	0010	-0163	34198	2754																STD	0020	-0163	3441	2771	0003895	0011	14412													OBS	0020	-0163	34408	2771																OBS	0025	-0161	34428	2773																STD	0030	-0159	3445	2774	0003602	0015	14416													OBS	0030	-0159	34447	2774																STD	0050	-0120	3452	2779	0003168	0022	14439													OBS	0050	-0120	34518	2779																STD	0075	-0064	3458	2782	0002877	0029	14470													OBS	0075	-0064	34583	2782																STD	0100	-0020	3462	2783	0002807	0036	14495													OBS	0100	-0020	34618	2783																STD	0125	0003	3463	2783	0002808	0043	14510													OBS	0125	0003	34633	2783																STD	0150	0017	3464	2783	0002808	0050	14521													OBS	0150	0017	34643	2783																STD	0200	0025	3465	2783	0002777	0064	14533													OBS	0200	0025	34653	2783																STD	0250	0032	3466	2784	0002744	0078	14544													OBS	0250	0032	34663	2784																STD	0300	0033	3467	2784	0002721	0092	14553													OBS	0300	0033	34667	2784																STD	0400	0038	3468	2784	0002697	0119	14572													OBS	0400	0038	34675	2784																STD	0500	0041	3467	2784	0002738	0146	14590													OBS	0500	0041	34673	2784																STD	0600	0036	3468	2785	0002633	0173	14605													OBS	0600	0036	34683	2785																STD	0700	0033	3468	2785	0002616	0199	14620													OBS	0700	0033	34683	2785																STD	0800	0028	3468	2786	0002583	0225	14634													OBS	0800	0028	34683	2786																STD	0900	0024	3468	2785	0002585	0251	14649													OBS	0900	0024	34679	2785																STD	1000	0017	3468	2786	0002532	0277	14663													OBS	1000	0017	34679	2786																STD	1100	0013	3468	2786	0002507	0302	14678													OBS	1100	0013	34678	2786																STD	1200	0008	3468	2786	0002472	0327	14692													OBS	1200	0008	34677	2786																STD	1300	0004	3468	2786	0002436	0351	14708													OBS	1300	0004	34677	2786																STD	1400	0000	3468	2786	0002412	0375	14723													OBS	1400	0000	34675	2786																STD	1500	-0004	3467	2786	0002387	0399	14738													OBS	1500	-0004	34673	2786																OBS	1600	-0008	34671	2787																OBS	1700	-0012	34670	2787																STD	1750	-0013	3467	2787	0002312	0458	14776													OBS	1800	-0014	34669	2787																OBS	1900	-0017	34669	2787																STD	2000	-0021	3467	2787	0002221	0515	14815													OBS	2000	-0021	34669	2787																OBS	2100	-0023	34668	2787																OBS	2200	-0025	34668	2787																OBS	2300	-0027	34668	2787																OBS	2400	-0029	34668	2787																STD	2500	-0031	3457	2787	0002071	0622	14897													OBS	2500	-0031	34668	2787																OBS	2600	-0033	34668	2788																OBS	2700	-0034	34667	2787																OBS	2800	-0037	34663	2787																OBS	2900	-0042	34658	2787																STD	3000	-0051	3465	2787	0001884	0721	14975													OBS	3000	-0051	34653	2787														
MESSAGE TIME HR 1/10																			CAST NO.	CARB TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY -210°	$\Sigma \Delta \sigma$ DYN. M. x 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P µg - ml/l	NH ₃ -H µg - ml/l	NO ₂ -N µg - ml/l	NO ₃ -N µg - ml/l	SiO ₂ -Si µg - ml/l	PH	SCC																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
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	STD	2500	-0031	3457	2787	0002071	0622	14897																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
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REFERENCE CTRY CODE	SNIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRAFT INCHES	MARSDEN SQUARE		STATION TIME (GMT)			YEAR	ORIGINATOR'S CRUISE NO.		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLES	WAVE OBSERVATIONS			WEA- TER CODE	CLOUD CODES	TYPE	AMT		NODC STATION NUMBER				
					10°	1°	MO	DAY	HR, 1/10		CRUISE NO.				OHR	HGT	PER	SEA									
											STATION NUMBER																
318037	GL	654815	050505W	521	50	03	12	180	1968	057	3210	09	00	0	X	X1	7	7						0077			
					WATER			WIND			BARO- METER (mb/s)		AIR TEMP. °C		NO. OBS. DEPTHS			SPECIAL OBSERVATIONS									
					COLOR CODE	TRANS. (m)	DIR.	SPEED OR FORCE			DRY BULB	WET BULB	VIS CODE														
									14	S09	930	-025	-034	6	15												
MESSNGR TIME NO. HR 1/10	CAST NO.	CARD TYPE	DEPTH (m)	T °C	S %.	SIGMA-T	SPECIFIC VOLUME ANOMALY - 10 ³	Σ Δ O OYN. M. x 10 ³	SOUND VELOCITY	O ₂ ml/l	PO ₄ -P µg - at/l	NH ₃ -N µg - at/l	NO ₂ -N µg - at/l	NO ₃ -N µg - at/l	SiO ₄ -Sr µg - at/l	pH	SiC										
179	STD	0000	-0179	3398	2737	0007186	0000	14395	699	14395	699	14394	699	14395	699	14395	699	14395	699	14395	699	14395	699	14395	699	810	
179	OBS	0000	-0179	33976	2737																						810
179	OBS	0008	-0184	33975	2737																						810
179	STD	0010	-0184	3397	2737	0007184	0007	14395	699	14395	699	14395	699	14395	699	14395	699	14395	699	14395	699	14395	699	14395	699	810	
179	STD	0020	-0182	3397	2736	000721*	0014	14397	697	14397	697	14397	697	14397	697	14397	697	14397	697	14397	697	14397	697	14397	697	810	
179	OBS	0021	-0182	33970	2736																						810
179	STD	0030	-0176	3397	2737	0007188	0022	14402	697	14402	697	14402	697	14402	697	14402	697	14402	697	14402	697	14402	697	14402	697	810	
179	OBS	0044	-0168	33981	2737																						809
179	STD	0050	-0166	3412	2748	0006080	0035	14412	674	14420	634	14420	634	14420	634	14420	634	14420	634	14420	634	14420	634	14420	634	805	
179	OBS	0065	-0161	34357	2767																						805
179	STD	0075	-0157	3439	2770	0004020	0047	14424	627	14424	627	14424	627	14424	627	14424	627	14424	627	14424	627	14424	627	14424	627	805	
179	OBS	0087	-0149	34330	2773																						803
179	STD	0100	-0130	3445	2774	0003633	0057	14442	616	14442	616	14442	616	14442	616	14442	616	14442	616	14442	616	14442	616	14442	616	803	
179	STD	0125	-0094	3449	2776	0003450	0066	14463	600	14463	600	14463	600	14463	600	14463	600	14463	600	14463	600	14463	600	14463	600	802	
179	OBS	0131	-0085	34503	2776																						802
179	STD	0150	-0056	3455	2779	0003147	0074	14486	563	14486	563	14505	530	14505	530	14505	530	14505	530	14505	530	14505	530	14505	530	798	
179	OBS	0175	-0024	34602	2782																						798
179	STD	0200	-0006	3463	2783	0002779	0089	14518	512	14518	512	14518	512	14518	512	14518	512	14518	512	14518	512	14518	512	14518	512	798	
179	STD	0250	0020	3466	2784	0002695	0103	14539	488	14539	488	14539	488	14539	488	14539	488	14539	488	14539	488	14539	488	14539	488	797	
179	OBS	0263	0025	34665	2784																						797
179	STD	0300	0029	3467	2784	0002674	0116	14551	485	14562	487	14562	487	14562	487	14562	487	14562	487	14562	487	14562	487	14562	487	797	
179	OBS	0350	0034	34675	2785																						797
179	STD	0400	0037	3468	2785	0002653	0143	14572	478	14572	478	14572	478	14572	478	14572	478	14572	478	14572	478	14572	478	14572	478	797	
179	OBS	T0435	0038	34684	2785																						797
179	STD	0500	0039	3469	2785	0002632	0169	14589	469	14589	469	14589	469	14589	469	14589	469	14589	469	14589	469	14589	469	14589	469	797	
179	OBS	T0523	0039	34686	2785																						797
179	STD	0600	0038	3469	2785	0002625	0195	14606	471	14610	473	14610	473	14610	473	14610	473	14610	473	14610	473	14610	473	14610	473	796	
179	OBS	T0631	0037	34686	2785																						796
179	STD	0700	0034	3469	2785	0002608	0222	14620	478	14620	478	14620	478	14620	478	14620	478	14620	478	14620	478	14620	478	14620	478	796	
179	OBS	T0730	0033	34685	2785																						796
179	STD	0800	0030	3468	2786	0002590	0248	14635	484	14635	484	14635	484	14635	484	14635	484	14635	484	14635	484	14635	484	14635	484	796	
179	STD	0900	0026	3468	2786	0002570	0273	14650	488	14650	488	14650	488	14650	488	14650	488	14650	488	14650	488	14650	488	14650	488	796	
179	OBS	T0929	0025	34682	2786																						796

MESSNGR TIME OR HR 1/10	CAST NO.	CARO TYPE	DEPTH (m)	13		S13	973	-012	-016	7	18				
				T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY- $\times 10^3$	$\Sigma \Delta \sigma$ OIN. M. $\times 10^3$	SOUND VELOCITY	O2 ml/l	PO4-P µg - ol/l	NH3-N µg - ol/l	NO2-N µg - ol/l	NO3-N µg - ol/l	SiO4-Si µg - ol/l
		STD	0000	-0190	3334	2685	0012053	0000	14381	816					
014	OBS	0000	-0190	33340	2685				14381	816					818
	STD	0010	-0180	3333	2684		0012135	0012	14387	836					
014	OBS	0010	-0180	33331	2684				14387	836					819
	STD	0020	-0175	3371	2715		0009225	0023	14397	780					
014	OBS	0026	-0172	33897	2730				14402	751					809
	STD	0030	-0171	3401	2739		0006925	0031	14405	737					
	STD	0050	-0164	3441	2772		0003862	0042	14417	679					
014	OBS	0052	-0163	34438	2774				14418	674					805
	STD	0075	-0138	3449	2777		0003312	0051	14434	632					
014	OBS	0077	-0135	34497	2778				14436	628					802
	STD	0100	-0087	3455	2780		0003027	0059	14463	577					
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	STD	0125	-0045	3459	2782		0002897	0066	14487	544					
	STD	0150	-0015	3462	2783		0002812	0073	14506	518					
014	OBS	0155	-0010	34630	2783				14509	514					796
	STD	0200	0014	3465	2784		0002737	0087	14528	486					
014	OBS	T0206	0016	34657	2784				14530	484					794
	STD	0250	0019	3466	2784		0002674	0100	14538	485					
	STD	0300	0023	3467	2785		0002661	0114	14549	487					
014	OBS	0308	0024	34668	2785				14550	487					794
	STD	0400	0036	3468	2785		0002646	0140	14571	472					
019	OBS	0410	0037	34683	2785				14573	471					792
	STD	0500	0039	3469	2785		0002617	0167	14589	467					
019	OBS	T0509	0039	34687	2785				14591	466					791
	STD	0600	0039	3469	2785		0002624	0193	14606	468					
019	OBS	0611	0039	34687	2785				14608	468					792
	STD	0700	0037	3469	2785		0002623	0219	14622	468					
019	OBS	T0716	0036	34686	2785				14624	468					791
	STD	0800	0032	3469	2786		0002590	0245	14636	472					
019	OBS	0813	0031	34686	2786				14638	473					791
	STD	0900	0023	3469	2786		0002532	0271	14649	486					
071	OBS	0919	0022	34685	2786				14652	488					
	STD	1000	0019	3468	2786		0002552	0296	14664	491					793
019	OBS	T1014	0018	34677	2786				14666	491					
071	OBS	T1018	0015	34678	2786				14665	500					792
	STD	1100	0012	3468	2786		0002499	0321	14677	504					
	STD	1200	0008	3468	2786		0002475	0346	14693	508					
	STD	1300	0005	3468	2786		0002442	0371	14708	512					
071	OBS	T1321	0004	34677	2786				14711	513					792

REFERENCE CITY CODE	SHIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DELT. NOE	MARSSEN SQUARE	STATION TIME (GMT)	YEAR	ORIGINATOR'S CRUISE NO.		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLES	WAVE OBSERVATIONS			WEA- THER CODE	CLOUD CODES	TYPE	AMT		NOCC STATION NUMBER																																																					
								CRUISE NO.	STATION NUMBER			DIR.	HGT	PER	SEA																																																										
318037	GL	643605	050350W	521	40	03	13	180	1968	059	3146	10	00	0	X	X1	7	7		0079																																																					
<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th colspan="2">WATER</th> <th colspan="2">WIND</th> <th colspan="2">BARO-METER</th> <th colspan="2">AIR TEMP. °C</th> <th colspan="2">VIR. CODE</th> <th colspan="2">NO. OBS. DEPTHS</th> <th colspan="2">SPECIAL OBSERVATIONS</th> <th colspan="2"></th> </tr> <tr> <th>COLOR CODE</th> <th>TRANS. DYN.</th> <th>DIR.</th> <th>SPEED OR FORCE</th> <th>MBAL</th> <th>MBAL</th> <th>ORY RULR</th> <th>WET BULB</th> <th>DIR.</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td>20</td> <td>S14</td> <td>077</td> <td>-054</td> <td>-059</td> <td>7</td> <td>15</td> <td></td> </tr> </tbody></table>																				WATER		WIND		BARO-METER		AIR TEMP. °C		VIR. CODE		NO. OBS. DEPTHS		SPECIAL OBSERVATIONS				COLOR CODE	TRANS. DYN.	DIR.	SPEED OR FORCE	MBAL	MBAL	ORY RULR	WET BULB	DIR.			20	S14	077	-054	-059	7	15																				
WATER		WIND		BARO-METER		AIR TEMP. °C		VIR. CODE		NO. OBS. DEPTHS		SPECIAL OBSERVATIONS																																																													
COLOR CODE	TRANS. DYN.	DIR.	SPEED OR FORCE	MBAL	MBAL	ORY RULR	WET BULB	DIR.	DIR.	DIR.	DIR.	DIR.	DIR.	DIR.	DIR.	DIR.	DIR.																																																								
		20	S14	077	-054	-059	7	15																																																																	
MESSENGERS TIME HR 1/10	CAST NO.	CARD TYPE	DEPTH UNI	T °C	S %	SIGMA-T	SPECIFIC VOLUME ANOMALY-X10 ³	Σ Δ O DYN. M. X 10 ³		SOUND VELOCITY	O ₂ ml/l	PO ₄ -P µg - ol/l	NH ₃ -N µg - ol/l	NO ₂ -N µg - ol/l	NO ₃ -N µg - ol/l	SiO ₄ -Si µg - ol/l	pH	Si %																																																							
179	STD	0000	-0178	3369	2714	0009379	0000	14392	756											815																																																					
179	OBS	0000	-0178	33691	2714			14392	756																																																																
179	STD	0010	-0181	3368	2713	0009419	0009	14392	763											816																																																					
179	OBS	0010	-0181	33684	2713			14392	763																																																																
179	STD	0020	-0178	3373	2717	0009065	0019	14396	706																																																																
179	OBS	0025	-0176	33788	2721			14398	684											815																																																					
179	STD	0030	-0174	3396	2735	0007301	0027	14402	674																																																																
179	STD	0050	-0165	3442	2772	0003780	0038	14416	645																																																																
179	OBS	0051	-0165	34434	2774			14417	644											809																																																					
179	STD	0075	-0167	3447	2777	0003379	0047	14420	629											808																																																					
179	OBS	0076	-0167	34476	2777			14421	628																																																																
179	STD	0100	-0158	3450	2779	0003177	0055	14429	624																																																																
179	OBS	0102	-0157	34500	2779			14430	623											807																																																					
179	STD	0125	-0121	3453	2780	0003042	0063	14451	597																																																																
179	STD	0150	-0088	3456	2781	0002932	0070	14471	573																																																																
179	OBS	0153	-0084	34568	2782			14474	571											805																																																					
179	STD	0200	-0038	3461	2783	0002766	0085	14503	545																																																																
179	OBS	T0206	-0033	34612	2783			14507	542											805																																																					
179	STD	0250	-0016	3463	2783	0002744	0098	14522	528																																																																
179	STD	0300	-0001	3465	2784	0002686	0112	14537	515																																																																
179	OBS	0306	0000	34647	2784			14539	514											804																																																					
179	STD	0400	0015	3466	2784	0002665	0139	14561	501																																																																
179	OBS	0407	0016	34662	2785			14563	500											802																																																					
179	STD	0500	0022	3467	2785	0002666	0165	14581	492																																																																
179	OBS	0508	0023	34666	2784			14583	491											802																																																					
179	STD	0600	0027	3467	2785	0002667	0192	14600	490																																																																
179	OBS	T0606	0027	34673	2785			14601	490											801																																																					
179	STD	0700	0026	3467	2785	0002634	0218	14617	490																																																																
179	OBS	0712	0026	34674	2785			14619	490											801																																																					
179	STD	0800	0023	3467	2785	0002629	0245	14632	497																																																																
179	OBS	T0814	0022	34672	2785			14634	498											800																																																					
179	STD	0900	0018	3467	2785	0002607	0271	14646	502																																																																
179	STD	1000	0014	3467	2785	0002576	0297	14661	504																																																																
179	OBS	T1013	0013	34670	2785			14663	504											799																																																					

REFERENCE CITY CODE	SNIP CODE	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRAFT INCHES	MARSSEN SQUARE	STATION TIME IGMTI	TEAB	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPLES	WAVE OBSERVATIONS			WEA- TER CODE	CLOUD CODES	TYPE AMT	NOOC STATION NUMBER
								CRUISE NO.	STATION NUMBER			AIR TEMP. °C	DRY BULB	WET BULB	VIS CODE	NO. OBS. DEPTHS	SPECIAL OBSERVATIONS	
318037	GL	6349 S	05036 W	521	30 03 14	060 1968				2487	21	00	0 X		X7	6 8		0080

MESSINGER TIME OR HR 1/10	CAST NO.	CARO TYPE	DEPTH (m)	T °C	S %	SIGMA-T	SPECIFIC VOLUME ANOMALY -10 ³	Σ Δ Θ OYN. M. x 10 ³	SOUND VELOCITY	O ₂ m/l	PO ₄ -P µg - ot/l	NH ₃ -N µg - ot/l	NO ₂ -N µg - ot/l	NO ₃ -N µg - ot/l	Si O ₄ -Si µg - ot/l	PM	SCC
		STD	0000	-0182	3363	2709	0009839	0000	14389	754							
051	OBS	0000	-0182	33630	2709				14389	754							808
	STD	0010	-0182	3363	2708	000987	0010	14391	766								
051	OBS	0010	-0182	33625	2708			14391	768								806
051	STD	0020	-0182	3368	2713	000944	0020	14393	757								
051	OBS	0026	-0182	33751	2719			14395	745								807
	STD	0030	-0180	3389	2730	0007824	0028	14399	723								
051	STD	0050	-0169	3433	2769	0004079	0040	14414	648								
051	OBS	0051	-0168	34393	2770			14415	646								806
	STD	0075	-0167	3445	2775	0003532	0050	14420	639								
051	OBS	0077	-0167	34455	2775			14421	638								803
051	STD	0100	-0161	3449	2778	0003260	0058	14428	621								
051	OBS	T0102	-0160	34489	2778			14428	619								801
	STD	0125	-0143	3451	2779	0003120	0066	14441	597								
	STD	0150	-0120	3453	2780	0003036	0074	14456	576								
051	OBS	0153	-0117	34537	2780			14458	574								799
	STD	0200	-0055	3459	2782	0002836	0088	14495	548								
051	OBS	0204	-0051	34598	2783			14498	546								799
	STD	0250	-0023	3462	2783	0002759	0102	14519	527								
	STD	0300	-0001	3464	2784	0002724	0116	14537	513								
051	OBS	0305	0001	34646	2784			14539	512								797
	STD	0400	0015	3466	2784	0002687	0143	14561	504								
051	OBS	0406	0016	34658	2784			14563	503								794
051	STD	0500	0023	3467	2785	0002643	0170	14582	492								
051	OBS	T0507	0024	34674	2785			14583	491								796
	STD	0600	0027	3468	2785	0002592	0196	14600	487								
051	OBS	T0607	0027	34680	2785			14602	487								797
	STD	0700	0023	3468	2786	0002569	0222	14615	487								
051	OBS	0708		34680													796
	STD	0800	0019	3468	2786	0002542	0247	14630	495								
051	OBS	T0808	0019	34675	2785			14632	496								796
	STD	0900	0016	3468	2786	0002543	0273	14645	502								
149	OBS	T0914	0015	34676	2786			14647	503								791
	STD	1000	0015	3468	2786	0002546	0298	14662	504								
051	OBS	T1008	0013	34675	2786			14662	504								795
149	OBS	1016	0011	34672	2786			14663	507								790
	STD	1100	0007	3467	2786	0002519	0324	14675	510								
	STD	1200	0003	3467	2786	0002483	0349	14690	515								
149	OBS	T1269	0000	34665	2786			14700	518								791
	STD	1300	-0002	3467	2786	0002475	0373	14705	520								
	STD	1400	-0006	3466	2786	000245	0398	14720	525								
	STD	1500	-0011	3466	2786	0002408	0422	14734	530								
149	OBS	1527	-0012	34661	2786			14738	531								791
	STD	1750	-0019	3466	2786	0002330	0481	14773	540								
149	OBS	1838	-0023	34658	2786			14786	544								789
149	STD	2000	-0030	3465	2786	0002228	0538	14811	551								
149	OBS	T2149	-0038	34654	2787			14833	558								792

REFERENCE CITY CODE	SHIP CODE IO. NO.	LATITUDE ° 1/10	LONGITUDE ° 1/10	DRAFT INCHES	MARSOEN SQUARE		STATION TIME HR. 1/10	YEAR	ORIGINATOR'S		DEPTH TO BOTTOM	MAX. DEPTH OF SAMPL'S	WAVE OBSERVATIONS			WEA- TER CODE	CLOUD CODES TYPE AMT		NOOC STATION NUMBER
					10°	1°	MO	DAY	HR. 1/10	CRUISE NO.	STATION NUMBER		DIR.	HGT PER SEA	X1	03			
318037	GL	6349 S	05036 W	521	30	03	14	090	1968			2487	25	00	0 X	X1	03	0081	

MESSNGR TIME HR 1/10	CAST NO.	CARO TYPE	DEPTH (m)	T °C	S ‰	SIGMA-T	SPECIFIC VOLUME ANOMALY-10³	ΣΔΩ OYN. M. X 10³	SOUND VELOCITY	O₂ ml/l	WATER PROPERTIES					pH	S C		
											WATER COLOR CODE	WIND TRANS. (m)	DIR.	SPEED OR FORCE	BARO. METER (mb)	AIR TEMP. °C	DRY BULB	WET BULB	VIS. CODE
079											STD	0000	-0178						
											OBS	0000	-0178						
											STD	0010	-0183						
											OBS	0010	-0183						
											STD	0020	-0168						
											OBS	0020	-0168						
											OBS	0025	-0163						
											STD	0030	-0163	3360	2706	0010107			14402
											OBS	0030	-0163	33598	2706				14408
											STD	0050	-0166	3389	2729	0007860			14408
											OBS	0050	-0166	33888	2729				14408
											STD	0075	-0165	3417	2752	0005699			14417
											OBS	0075	-0165	34158	2752				14417
											STD	0100	-0148	3450	2779	0003169			14434
											OBS	0100	-0148	34503	2779				14434
											STD	0125	-0120	3454	2781	0002985			14452
											OBS	0125	-0120	34538	2781				14452
											STD	0150	-0094	3456	2781	0002930			14468
											OBS	0150	-0094	34557	2781				14468
											STD	0200	-0031	3462	2783	0002740			14507
											OBS	0200	-0031	34618	2783				14507
											STD	0250	-0007	3463	2783	0002747			14526
											OBS	0250	-0007	34633	2783				14526
											STD	0300	0004	3464	2783	0002760			14539
											OBS	0300	0004	34639	2783				14539
											STD	0400	0021	3466	2784	0002740			14564
											OBS	0400	0021	34655	2784				14564
											STD	0500	0024	3466	2784	0002692			14582
											OBS	0500	0024	34664	2784				14582
											STD	0600	0027	3467	2784	0002684			14600
											OBS	0600	0027	34668	2784				14600
											STD	0700	0023	3467	2785	0002657			14615
											OBS	0700	0023	34668	2785				14615
											STD	0800	0021	3467	2785	0002644			14631
											OBS	0800	0021	34668	2785				14631
											STD	0900	0016	3467	2785	0002607			14645
											OBS	0900	0016	34668	2785				14645
											STD	1000	0012	3467	2785	0002575			14660
											OBS	1000	0012	34668	2785				14660
											STD	1100	0007	3467	2786	0002534			14675
											OBS	1100	0007	34668	2786				14675
											STD	1200	0004	3467	2786	0002506			14690
											OBS	1200	0004	34668	2786				14690
											STD	1300	0001	3467	2786	0002477			14706
											OBS	1300	0001	34668	2786				14706
											STD	1400	-0002	3467	2786	0002447			14722
											OBS	1400	-0002	34668	2786				14722
											STD	1500	-0005	3467	2786	0002416			14737
											OBS	1500	-0005	34668	2786				14737
											STD	1600	-0006	34668	2786				14754
											OBS	1700	-0010	34668	2786				14769
											STD	1750	-0012	3467	2786	0002336			14777
											OBS	1800	-0015	34668	2787				14784
											OBS	1900	-0023	34666	2767				14797
											STD	2000	-0031	3467	2787	0002138			14811
											OBS	2000	-0031	34667	2787				14811
											OBS	2100	-0046	34665	2788				14821
											OBS	2200	-0059	34663	2788				14832
											OBS	2300	-0076	34663	2789				14842
											OBS	2400	-0086	34665	2790				14854
											STD	2500	-0102	3466	2790	0001399			14864
											OBS	2500	-0102	34658	2790				14864

